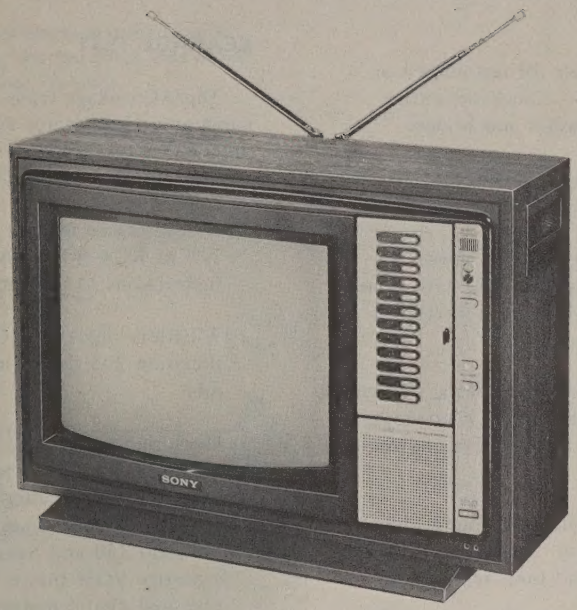
KV-1541R
RM-302

USA Model

Chassis No. SCC-110D-A



TRINITRON® COLOR TV

SPECIFICATIONS

Television System:	American TV standards
Color System:	NTSC
Picture Tube:	38 cm, 15" (measured diagonally), 90° deflection TRINITRON system
Semiconductors:	2 FETs, 67 transistors, 66 diodes, 7 ICs and 1 GCS (Gate Controlled Switch)
Antennas:	VHF: 300Ω balanced (Telescopic dipole*) UHF: 300Ω balanced (Loop antenna*) ***Note:** Supplied with accessories
Channel Coverage:	VHF channels: 2–13 UHF channels: 14–83
Intermediate Frequencies:	Picture i-f carrier: 45.75 MHz Color subcarrier: 42.17 MHz Sound i-f carrier: 41.25 MHz
Sound System:	4.5 MHz intercarrier Output power: 1.5W (at 10% harmonic distortion) Speaker: 10 cm (4 inches) dia., 8Ω
Video System:	RGB cathode drive
Automatic Controls:	ABL (automatic brightness limiter) ACC (automatic color control) ACK (automatic color killer) ADG (automatic degaussing) AFC (automatic frequency control) AFT (automatic fine tuning) AGC (automatic gain control) ANC (automatic noise canceller) AVR (automatic voltage regulator)
Anode Voltage:	23.5 kV at zero beam current
Power Requirements:	120V AC, 60 Hz
Power Consumption:	105W (max.)
Dimensions:	572 (w) × 396.5 (h) × 416.5 (d) mm 22 1/2 (w) × 15 5/8 (h) × 16 3/8 (d) inches
Net Weight:	20 kg (44 lb 2 oz)

Accessories:	Earphone (ME-208) VHF dipole antenna (AN-16) Instruction manual Remote commander (RM-302) Tuning aid Channel label 75Ω Adapter UHF Loop antenna (AN-15)

WARNING!!

TO ELIMINATE SHOCK HAZARD AND PROTECT EQUIPMENT WHEN SERVICING THE SET WITH THE COVERS REMOVED, MAKE SURE THAT THE SET IS PLUGGED INTO A SUITABLY-RATED ISOLATION TRANSFORMER.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SONY®

SERVICE MANUAL

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.

8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground must not exceed 0.2 mA (200 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.3 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A.)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most a-c outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60 – 100 watt trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line. The lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B.)

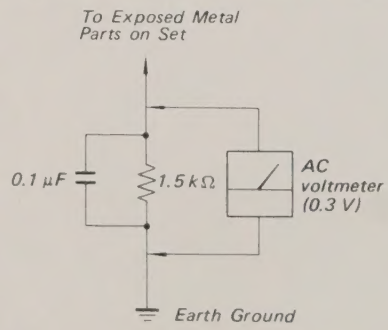


Fig. A. Using an AC voltmeter to check AC leakage.

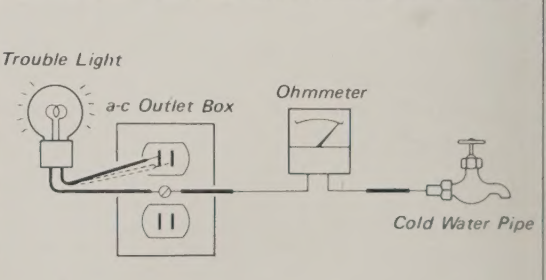
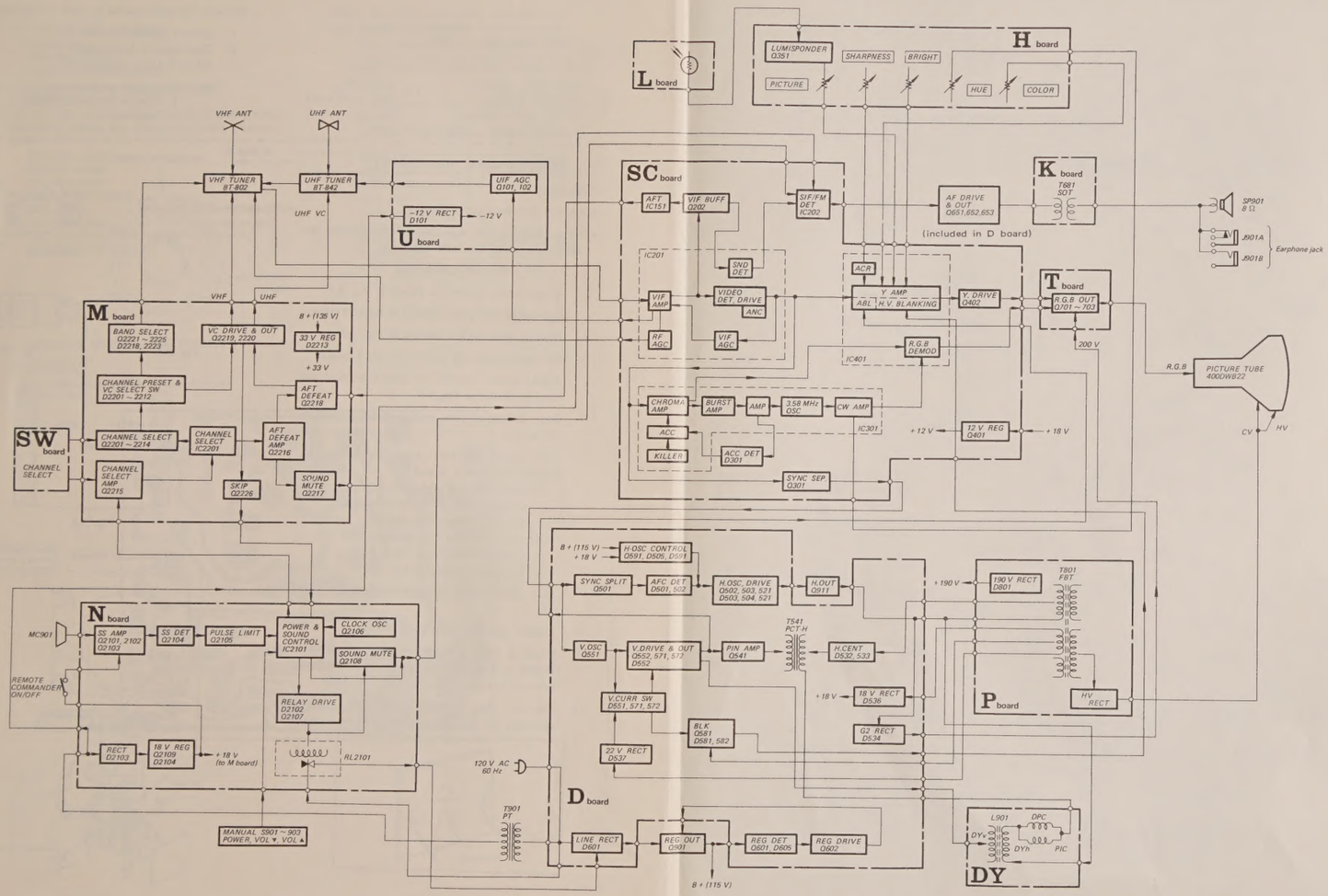


Fig. B. Checking for earth ground.

SECTION 1
BLOCK DIAGRAM



SECTION 2
DISASSEMBLY AND CHANNEL PRESETTING

2-1. PICTURE TUBE REMOVAL

Note: Perform the procedures in numerial order.
When removing the rear cover, take out all the screws marked ≒ on it.

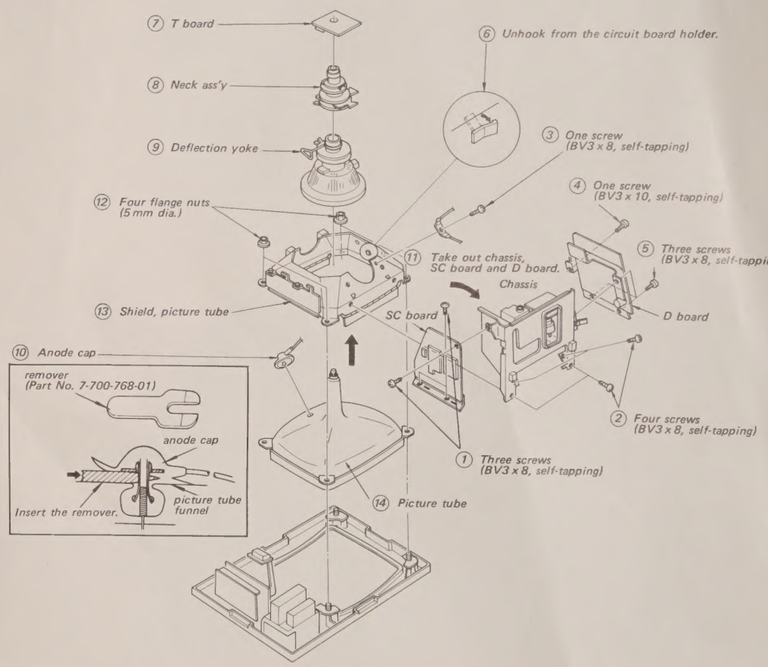

7 T board
8 Neck ass'y
9 Deflection yoke
12 Four flange nuts (5 mm dia.)
13 Shield, picture tube
10 Anode cap
6 Unhook from the circuit board holder.
3 One screw (BV3 x 8, self-tapping)
4 One screw (BV3 x 10, self-tapping)
11 Take out chassis, SC board and D board.
Chassis
SC board
5 Three screws (BV3 x 8, self-tapping)
D board
2 Four screws (BV3 x 8, self-tapping)
1 Three screws (BV3 x 8, self-tapping)
14 Picture tube
remover (Part No. 7-700-768-01)
anode cap
picture tube funnel
Insert the remover.

Fig. 2-1. Picture tube removal

2-2. PRESETTER ASS'Y REMOVAL

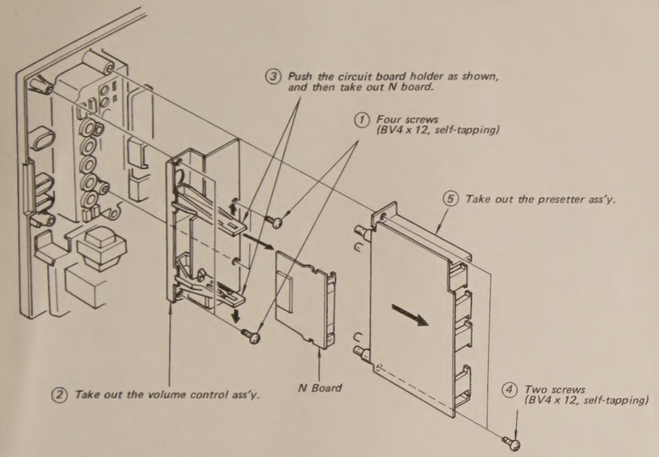

③ Push the circuit board holder as shown, and then take out N board.
① Four screws (BV4 x 12, self-tapping)
⑤ Take out the presetter ass'y.
② Take out the volume control ass'y.
N Board
④ Two screws (BV4 x 12, self-tapping)

Fig. 2-2. Presetter ass'y removal

2-3. CIRCUIT BOARDS LOCATION

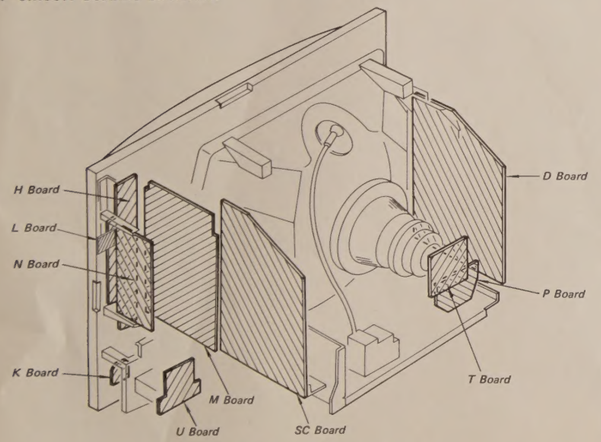


Fig. 2-3. Circuit boards location

2-4. CHANNEL PRESETTING

❶ Open the lid of the control lid.

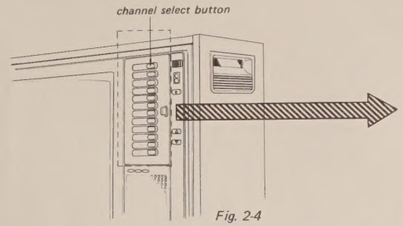


Fig. 2-4

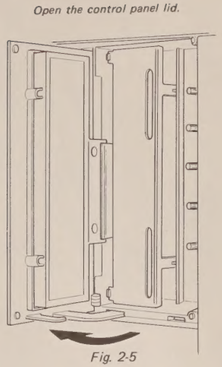


Fig. 2-5

❷ Remove the cover of the channel presetting compartment.

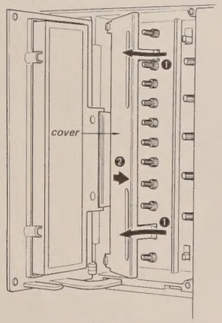


Fig. 2-6

❸

Referring to Fig. 2-7.

1. Press the desired channel select button.
2. Set the band select knob (outer) to one of the three color-coded positions corresponding to the desired channel number.
3. Turn the tuning knob (inner) so that the pointer on the channel indicating meter moves toward the selected channel meter.

   Note: • Use the tuning aid supplied for easier operation.

   • To skip a channel in remote control operation, turn the tuning knob fully counterclockwise until a click is heard and the pointer on the channel indicating meter moves to its lowest position.
4. After completing adjustments and repairs, confirm that all the channels are pre-set as indicated by number segment.

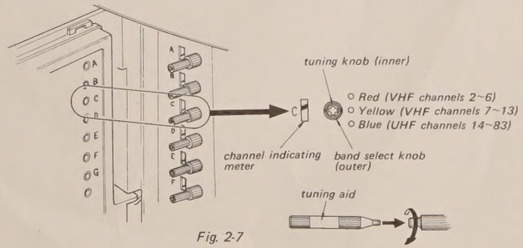


Fig. 2-7

SECTION 3
SETUP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Controls and switch should be set as follows:

PICTURE control } ..... maximum
BRIGHT control } ..... (fully clockwise)
AUTO, AFT switches ..... ON
LUMISPONDER switch ..... OFF

Perform the adjustments in order as follows:

1. Beam Landing Adjustment
2. Convergence Adjustment
3. White Balance Adjustment

Note: Test Equipment Required.
1. Color-bar/Pattern Generator
2. Degausser

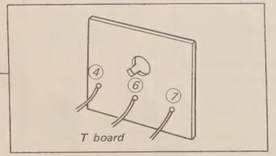
to page 9.

3-1. BEAM LANDING ADJUSTMENT

Preparation:

- Receive the crosshatch pattern.
- Before starting this adjustment, demagnetize the whole screen securely with degausser.

1. Loosen deflection yoke screw.
2. Adjust purity control as shown in Fig. 3-1.
3. Slide deflection yoke forward as far as it will go.
4. Position neck ass'y as shown in Fig. 3-2.
5. Disconnect leads ⑥ and ⑦ on the T board.
6. Adjust purity control to center vertical red band as shown in Fig. 3-3.
7. Slide deflection yoke backward for a uniform red screen.
8. Check green and blue rasters for uniformity.
   Repeat the Steps 5, 6 and 7.
   To get a uniform green screen,
   .... Connect lead ⑥ on the T board.
   Disconnect leads ④ and ⑦.
   To get a uniform blue screen,
   .... Connect lead ⑦ on the T board.
   Disconnect leads ④ and ⑥.
   After these checks, connect the leads ④, ⑥ and ⑦.
9. Tighten the deflection yoke screw.
10. Check if mislanding appears at corners a~d as shown in Fig. 3-4. If mislanding is observed, correct it as shown in Fig. 3-4.
11. Confirm that mislanding is not observed although the receiver is faced in any direction.



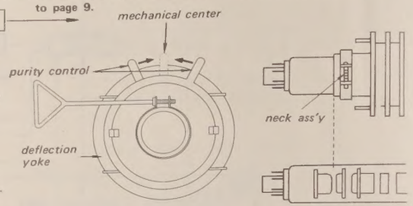


Fig. 3-1. Fig. 3-2.

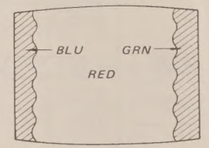


Fig. 3-3.

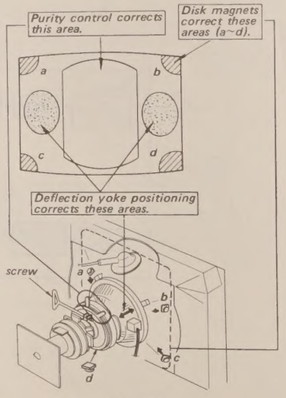


Fig. 3-4.

3-2. CONVERGENCE ADJUSTMENT

Preparation:

- Turn BRIGHT control fully counterclockwise.
- Receive the dot pattern.

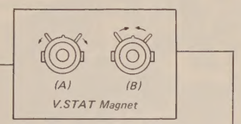
(1) Horizontal Static Convergence and Vertical Static Convergence Adjustments

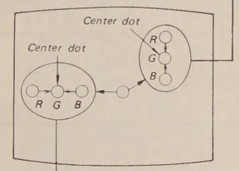
If blue dot does not concide with red and green dots, perform following Steps.

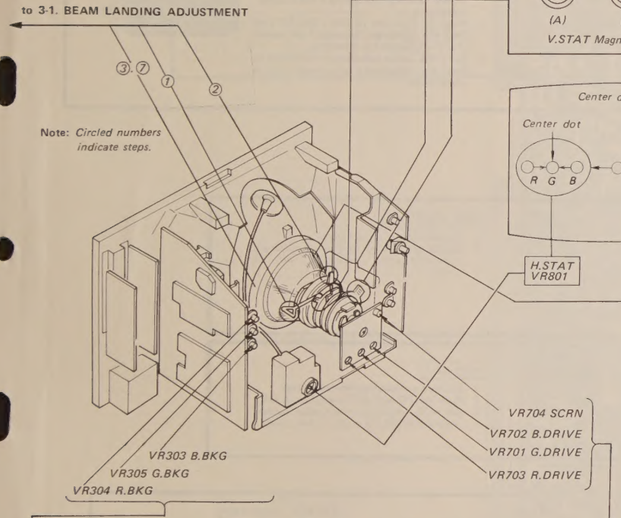
BMC magnet movement corrects insufficient H.static convergence.

BMC magnet rotation corrects insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.







3-3. WHITE BALANCE ADJUSTMENT

Receive the crosshatch pattern.

1. Turn BRIGHT and PICTURE controls fully counterclockwise.
2. Turn VR701 (G.DRIVE), VR702 (B.DRIVE), and VR703 (R.DRIVE) fully clockwise.
3. Set VR303 (B.BKG), VR304 (R.BKG), and VR305 (G.BKG) to mechanical center.
4. Turn VR704 (SCRN) slowly to obtain a faintly visible crosshatch. Memorize the color which becomes visible first by turning VR704.
5. Adjust the other two BKG controls for best white balance (neutral gray) at faintly visible screenlight.
6. Turn BRIGHT and PICTURE controls fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

(2) Dynamic Convergence Adjustment

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacer.
3. Move the deflection yoke for best convergence as shown in Fig. 3-5.

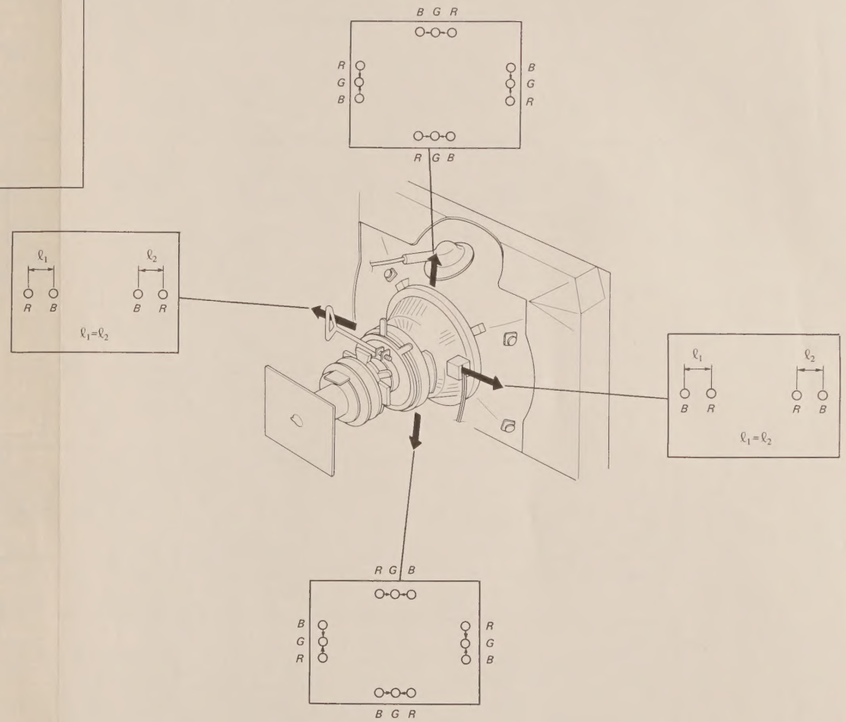


Fig. 3-5

SECTION 4
CIRCUIT ADJUSTMENTS

Note:

(1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Voltmeter (VOM)
3. Color-bar/pattern generator

(2) CONTROL SETTING FOR CHECKS AND ADJUSTMENTS

Controls and switches should be set as follows when performing checks and adjustments unless otherwise noted.

- PICTURE control
- BRIGHT control
- COLOR control
- SHARPNESS control
- HUE control ..... Set for best picture
- V.HOLD control ..... Set for stable picture
- AFT and AUTO switches .. ON
- LUMISPONDER switch ... OFF

(3) RECEIVING SIGNAL

When performing these adjustments, receive any of a crosshatch signal, a color-bar signal or an off-the-air signal.

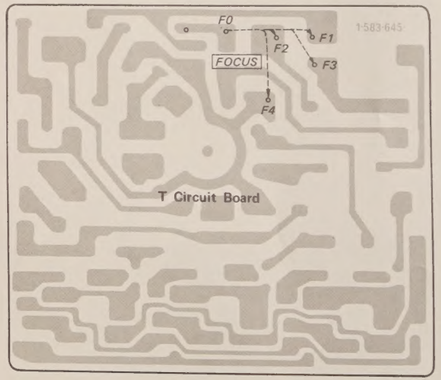
(4)

- FOCUS ADJ ..... T Circuit Board (Page 11)
- U.TUNER AGC ADJ ... U Circuit Board (Page 12)
- SIF ADJ, 4.5 MHz TRAP ADJ, ACC ADJ, BAT ADJ, AFT ADJ, TUNER AGC ADJ, HUE ADJ, 3.58 MHz TRAP ADJ ... SC Circuit Board (Pages 13 and 14)
- PIN ADJ, B+ (115V) ADJ, H.FREQ ADJ, H.OSC CONTROL ADJ ... D Circuit Board (Pages 15 and 16)

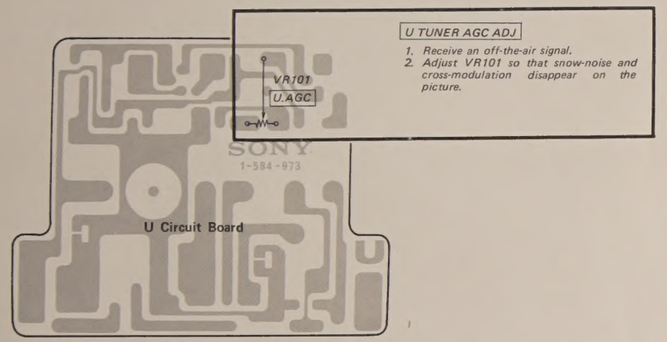
4-1. T CIRCUIT BOARD ADJUSTMENT

FOCUS ADJ

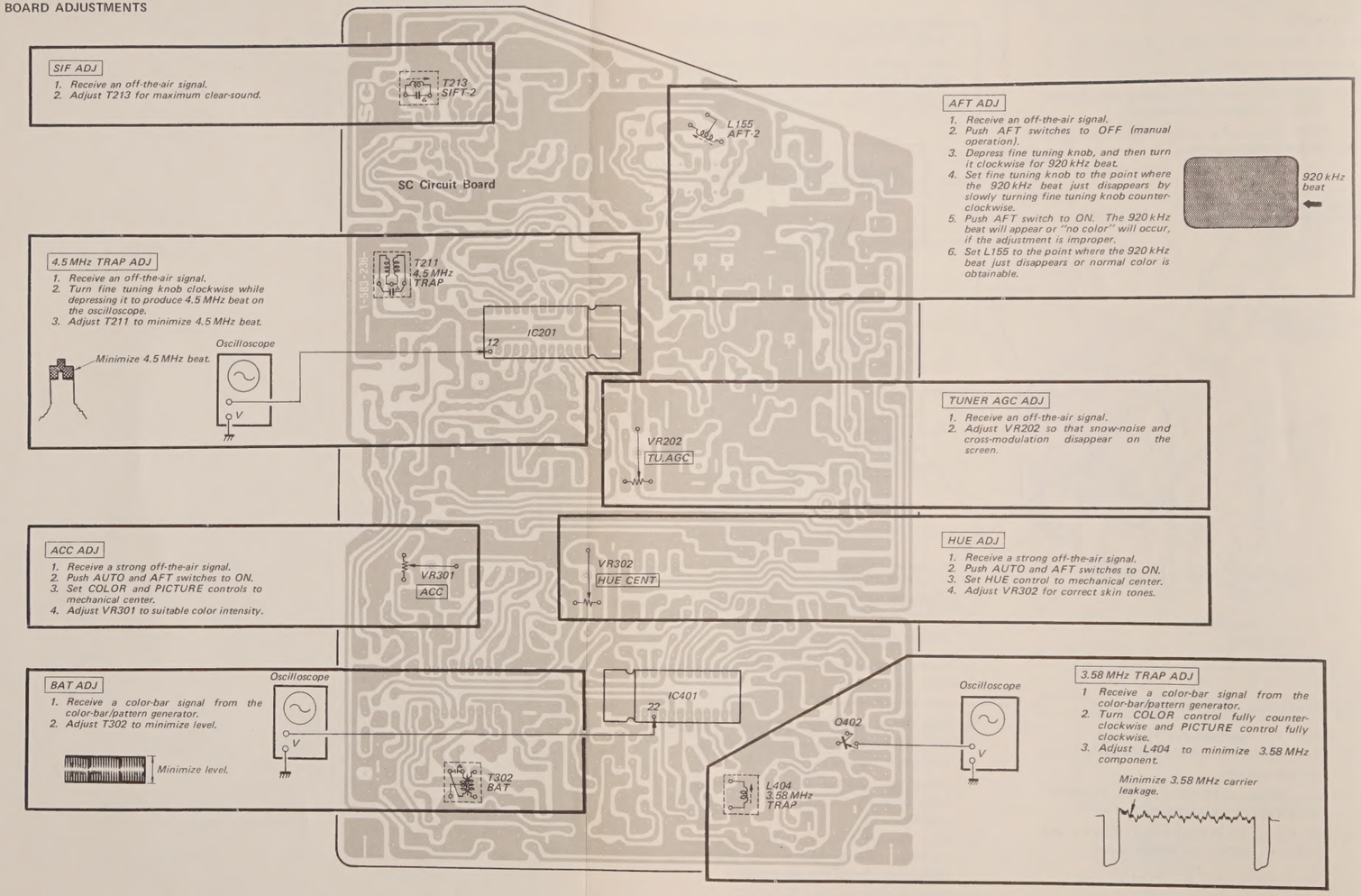
Select one of these connections (F1~F4) for best focus.



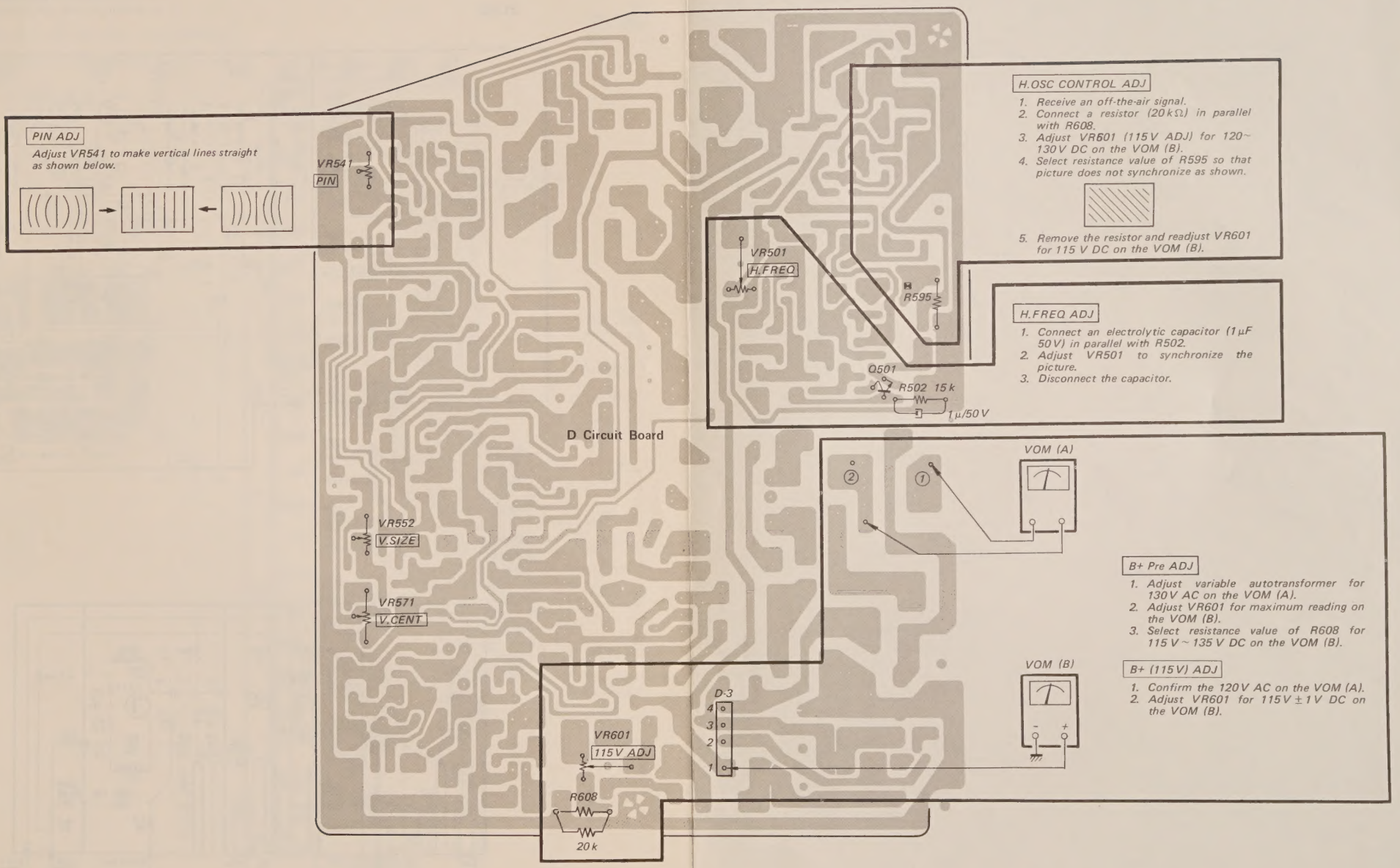
4-2. U CIRCUIT BOARD ADJUSTMENT



4-3. SC CIRCUIT BOARD ADJUSTMENTS


SIF ADJ
1. Receive an off-the-air signal.
2. Adjust T213 for maximum clear-sound.
T213
SIF-2
SC Circuit Board
L155
AFT-2
AFT ADJ
1. Receive an off-the-air signal.
2. Push AFT switches to OFF (manual operation).
3. Depress fine tuning knob, and then turn it clockwise for 920 kHz beat.
4. Set fine tuning knob to the point where the 920 kHz beat just disappears by slowly turning fine tuning knob counter-clockwise.
5. Push AFT switch to ON. The 920 kHz beat will appear or "no color" will occur, if the adjustment is improper.
6. Set L155 to the point where the 920 kHz beat just disappears or normal color is obtainable.
920 kHz beat
4.5 MHz TRAP ADJ
1. Receive an off-the-air signal.
2. Turn fine tuning knob clockwise while depressing it to produce 4.5 MHz beat on the oscilloscope.
3. Adjust T211 to minimize 4.5 MHz beat.
T211
4.5 MHz
TRAP
IC201
12
Oscilloscope
Minimize 4.5 MHz beat.
V
TUNER AGC ADJ
1. Receive an off-the-air signal.
2. Adjust VR202 so that snow-noise and cross-modulation disappear on the screen.
VR202
TU.AGC
ACC ADJ
1. Receive a strong off-the-air signal.
2. Push AUTO and AFT switches to ON.
3. Set COLOR and PICTURE controls to mechanical center.
4. Adjust VR301 to suitable color intensity.
VR301
ACC
VR302
HUE CENT
HUE ADJ
1. Receive a strong off-the-air signal.
2. Push AUTO and AFT switches to ON.
3. Set HUE control to mechanical center.
4. Adjust VR302 for correct skin tones.
BAT ADJ
1. Receive a color-bar signal from the color-bar/pattern generator.
2. Adjust T302 to minimize level.
Oscilloscope
V
Minimize level.
T302
BAT
IC401
22
Q402
L404
3.58 MHz
TRAP
3.58 MHz TRAP ADJ
1 Receive a color-bar signal from the color-bar/pattern generator.
2. Turn COLOR control fully counter-clockwise and PICTURE control fully clockwise.
3. Adjust L404 to minimize 3.58 MHz component.
Minimize 3.58 MHz carrier leakage.

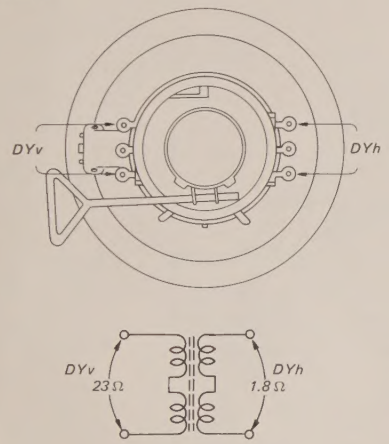
4-4. D CIRCUIT BOARD ADJUSTMENTS


PIN ADJ
Adjust VR541 to make vertical lines straight as shown below.
VR541
PIN
H.OSC CONTROL ADJ
1. Receive an off-the-air signal.
2. Connect a resistor (20 kΩ) in parallel with R608.
3. Adjust VR601 (115 V ADJ) for 120~130 V DC on the VOM (B).
4. Select resistance value of R595 so that picture does not synchronize as shown.
5. Remove the resistor and readjust VR601 for 115 V DC on the VOM (B).
VR501
H.FREQ
R595
H.FREQ ADJ
1. Connect an electrolytic capacitor (1 µF 50 V) in parallel with R502.
2. Adjust VR501 to synchronize the picture.
3. Disconnect the capacitor.
Q501
R502 15 k
1 µ/50 V
D Circuit Board
VOM (A)
VR552
V.SIZE
VR571
V.CENT
B+ Pre ADJ
1. Adjust variable autotransformer for 130 V AC on the VOM (A).
2. Adjust VR601 for maximum reading on the VOM (B).
3. Select resistance value of R608 for 115 V ~ 135 V DC on the VOM (B).
VOM (B)
D-3
4
3
2
1
VR601
115V ADJ
R608
20 k
B+ (115V) ADJ
1. Confirm the 120 V AC on the VOM (A).
2. Adjust VR601 for 115 V ± 1 V DC on the VOM (B).

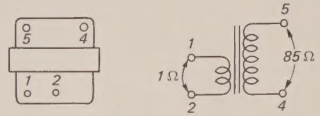
SECTION 5
DIAGRAMS

5-1. DC RESISTANCE AND WINDING DIAGRAMS OF COILS AND TRANSFORMERS

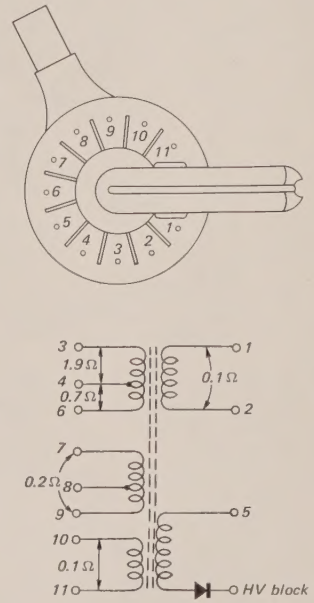
L901 DY



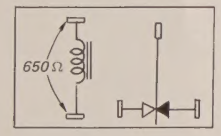
T681 SOT



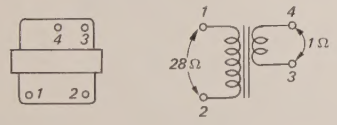
T801 FBT



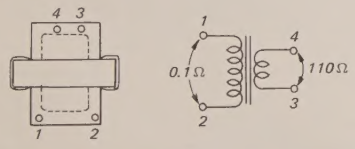
RL2101



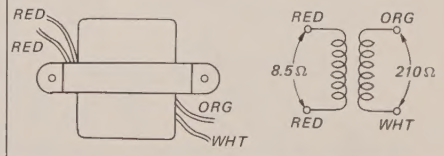
T521 HDT



T541 PCT-H



T901 PT

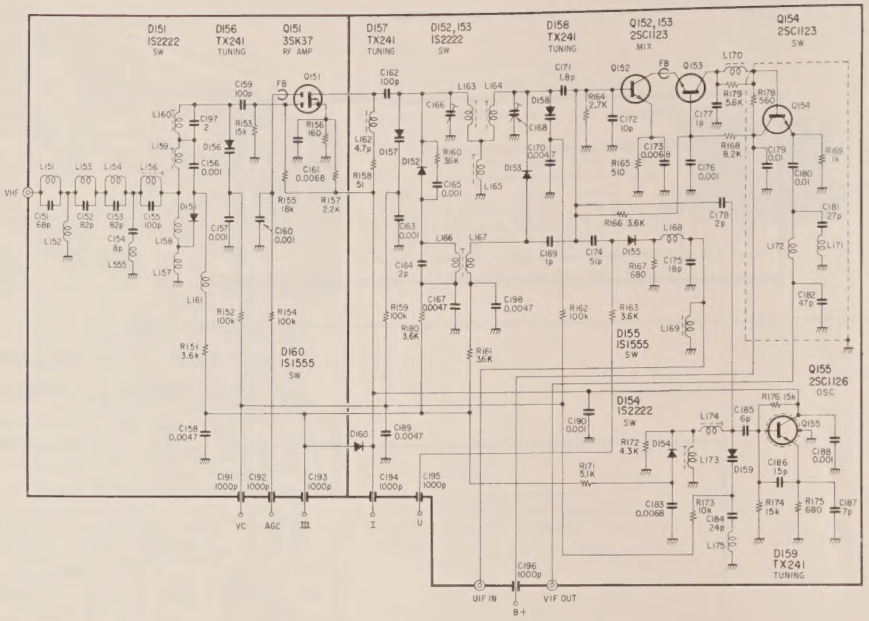


Note: DC resistance measurements shown with coil disconnected from circuit.

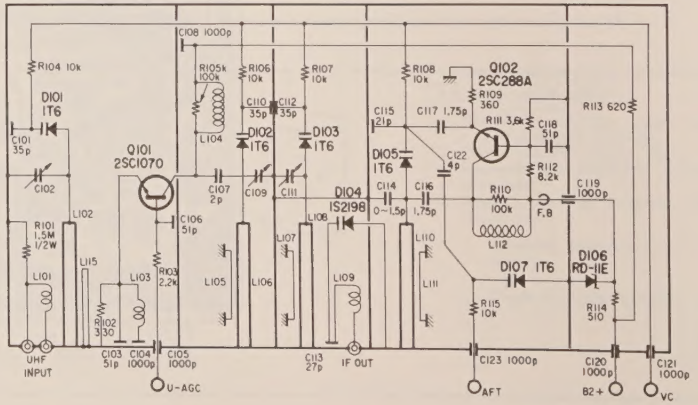
5-2. VHF AND UHF TUNER SCHEMATIC DIAGRAMS

Note: 1. Tuner reference numbers are not included in the Electrical Parts List (Page 41~48).
2. All resistors are ¼W unless otherwise noted.

— VHF Tuner —
BT-802



— UHF Tuner —
(BT-842)



5-3. MOUNTING DIAGRAM – K & SW Circuit Board –

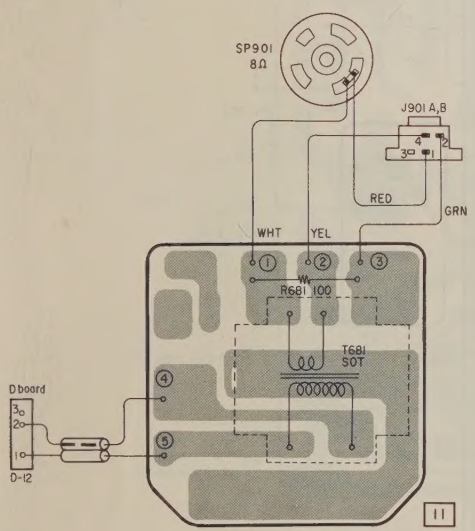
– Conductor Side –

Note:

- ●— indicates wire connection point on the conductor side.
- ○— indicates parts or wire connection point on the component side.

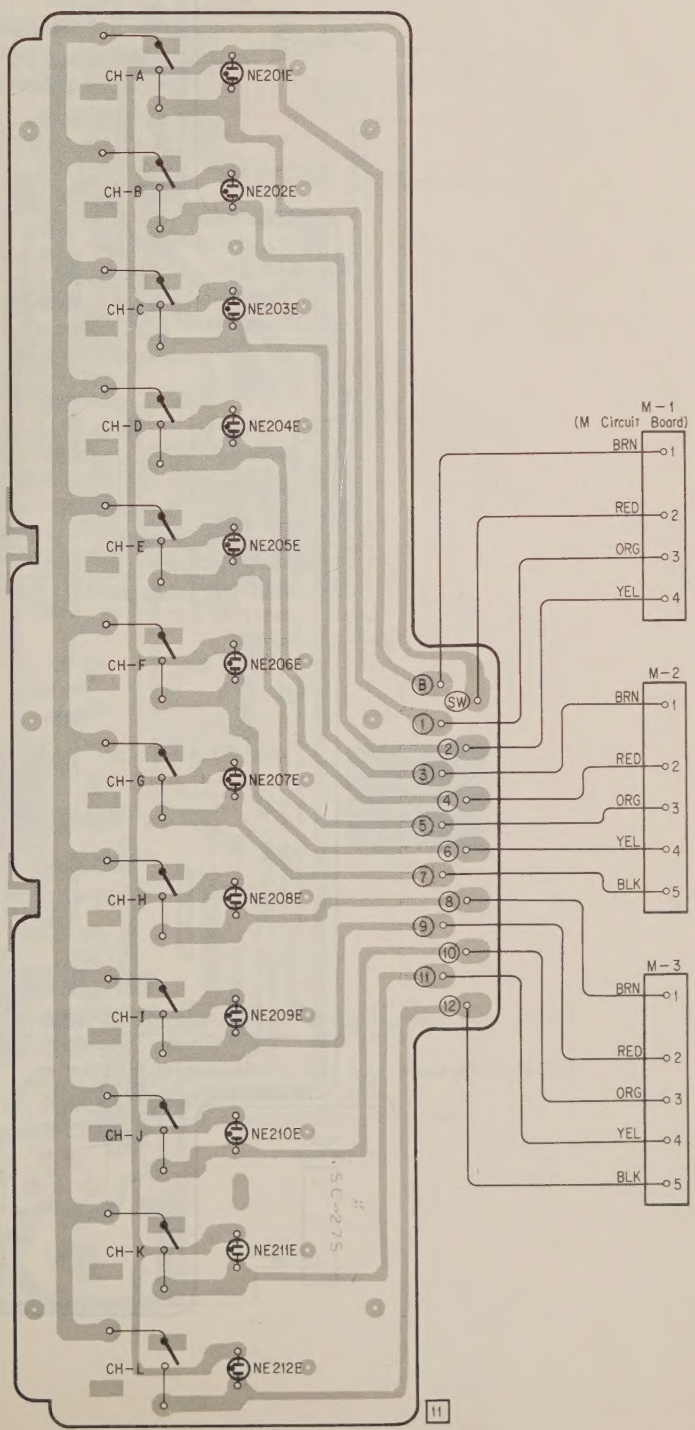
K

SW



K Circuit Board

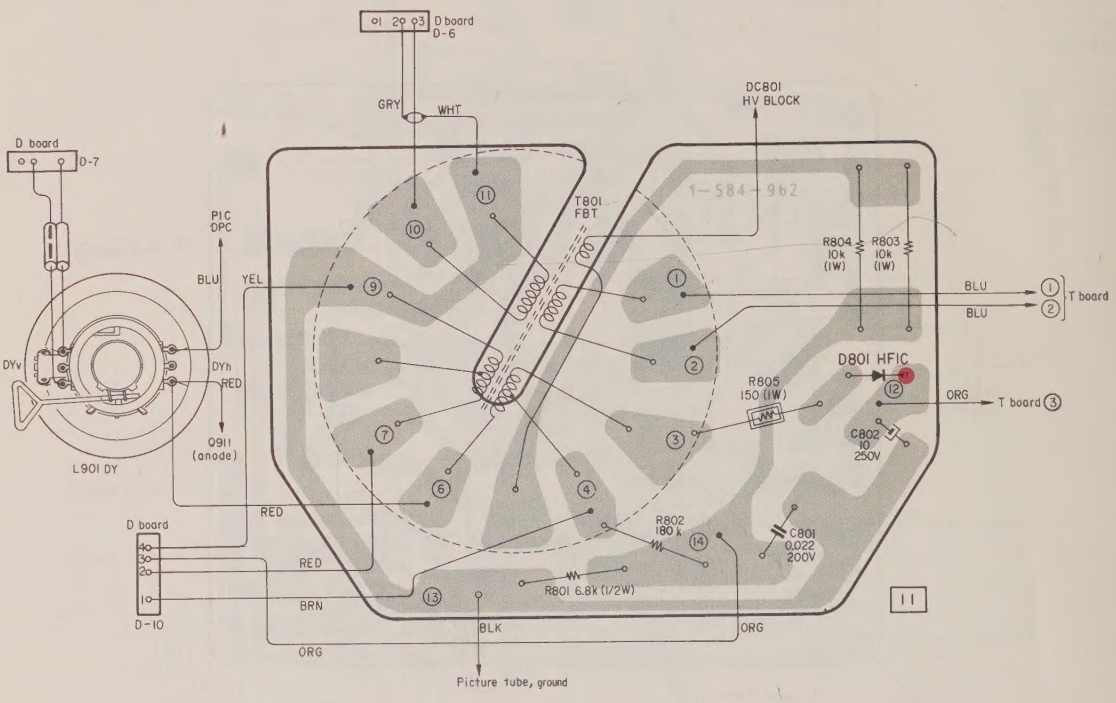
SW Circuit Board



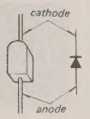
P

5-6. MOUNTING DIAGRAM – P Circuit Board –

– Conductor Side –



HFIC



Note: ●—indicates parts or wire connection point on the conductor side.
○—indicates parts or wire connection point through the component side.

5-7. MOUNTING DIAGRAM — N Circuit Board —

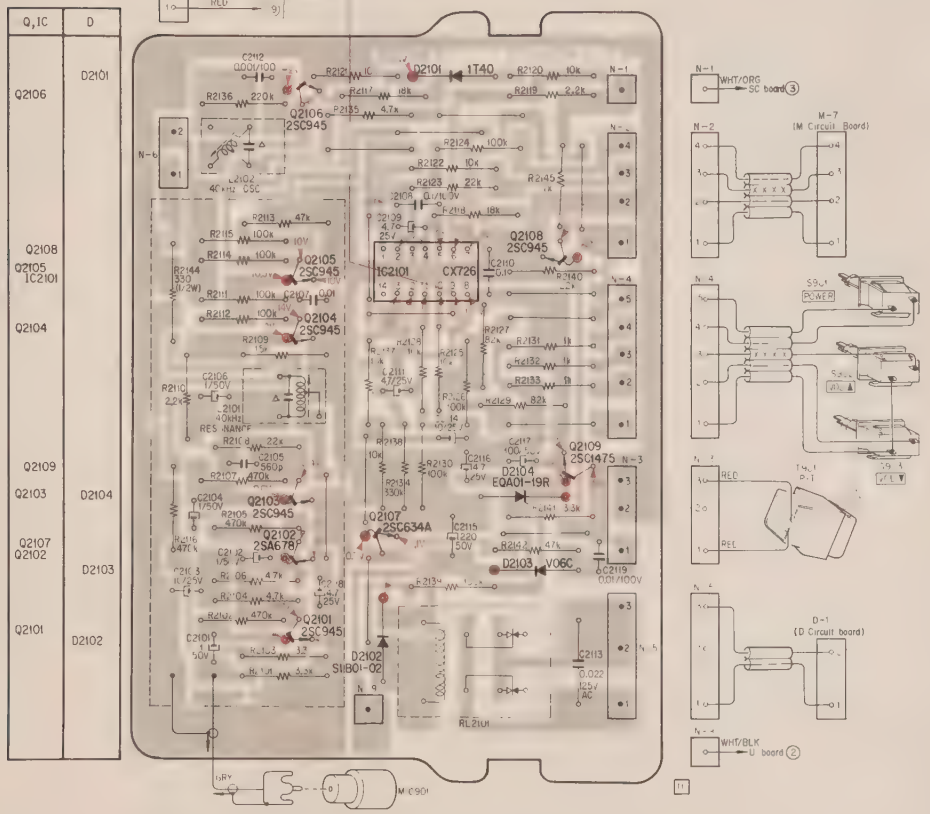
— Conductor Side —

N



15) 17Vp-p (H)

Note: ●—indicates parts or wire connection point on the conductor side.
○—indicates parts or wire connection point through the component side.

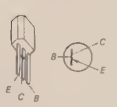


CX726

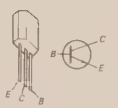


(Top view)

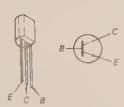
2SA678



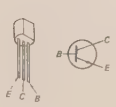
2SC634A



2SC945



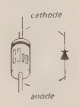
2SC1475



1T40



EQA01-19R
SIB01-02



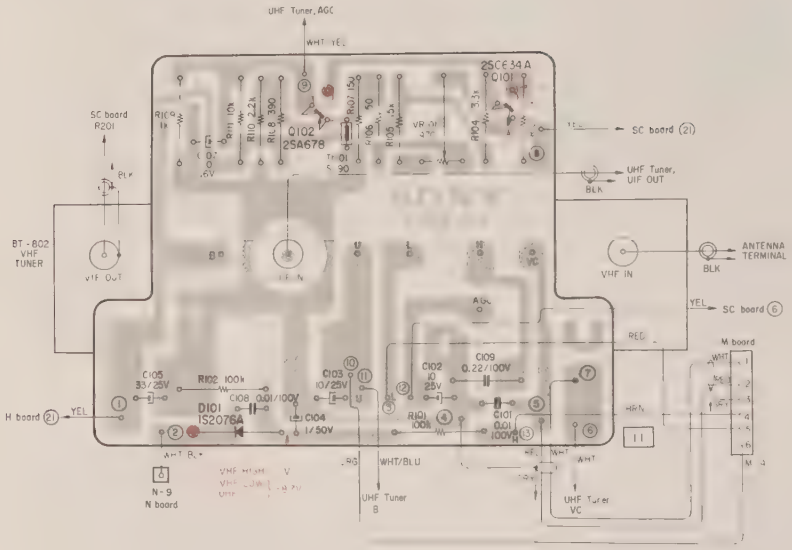
V06C



U

5-8. MOUNTING DIAGRAM — U Circuit Board —

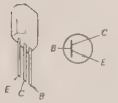
— Conductor Side —



2SA678



2SC634A



1S2076A

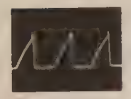


Note: ●—indicates parts or wire connection point on the conductor side.
○—indicates parts or wire connection point through the component side.

5-9. MOUNTING DIAGRAM – D Circuit Board –

– Conductor Side –

D D


14 63Vp-p (V)

13 84Vp-p (V)

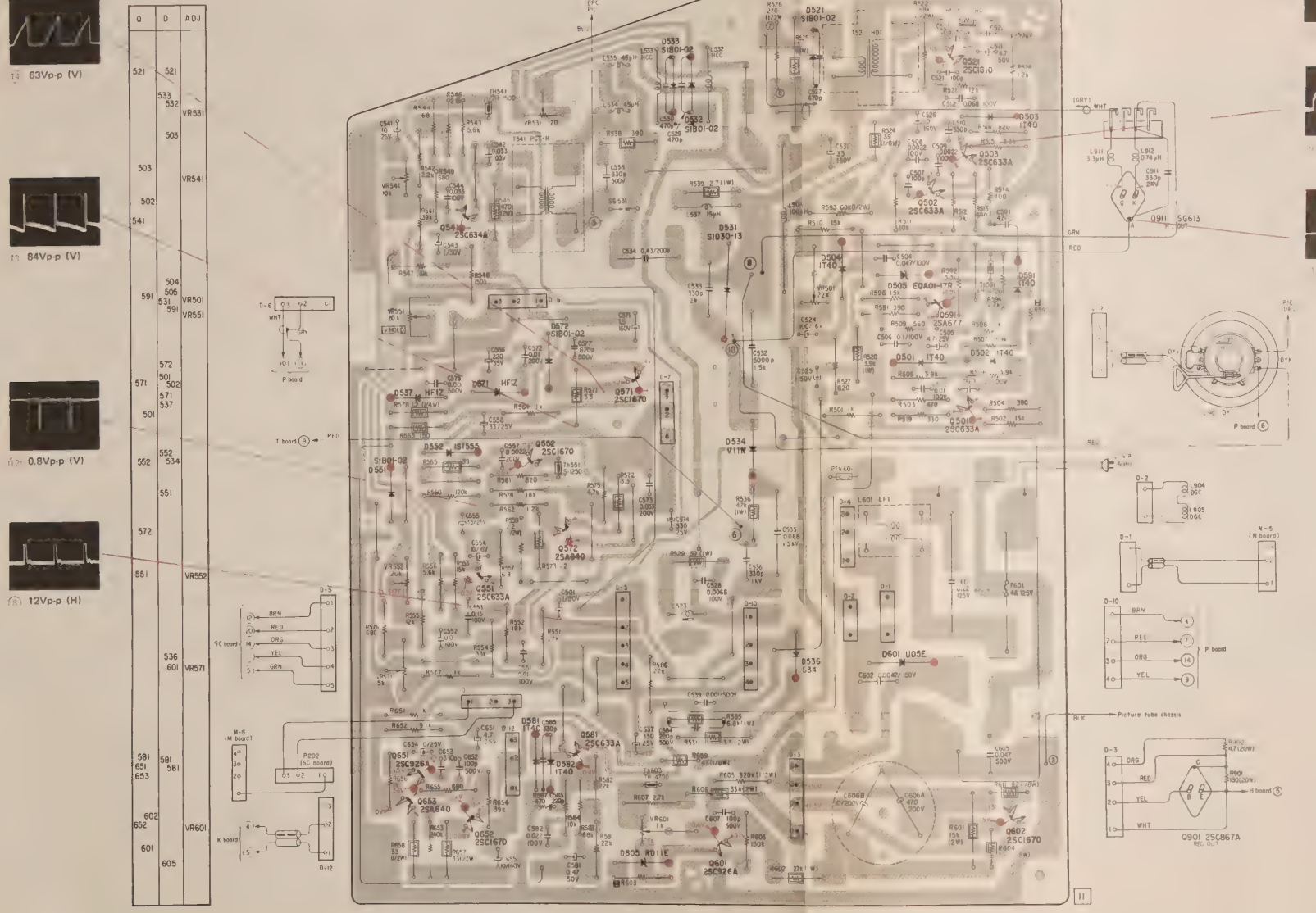
10 0.8Vp-p (V)

8 12Vp-p (H)


250Vp-p (H)


11 11Vp-p (H)


11 880Vp-p (H)



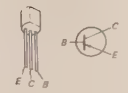
2SA677



SG613



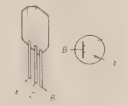
2SA840



1S1555
1T40
RD11E



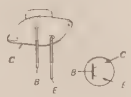
2SC633A
2SC634A
2SC926A



EQA01-17R
SIB01-02



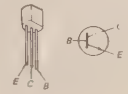
2SC867A



HF1Z



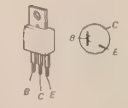
2SC1670



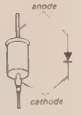
S34



2SC1810



SID30-13



U05E
V11N

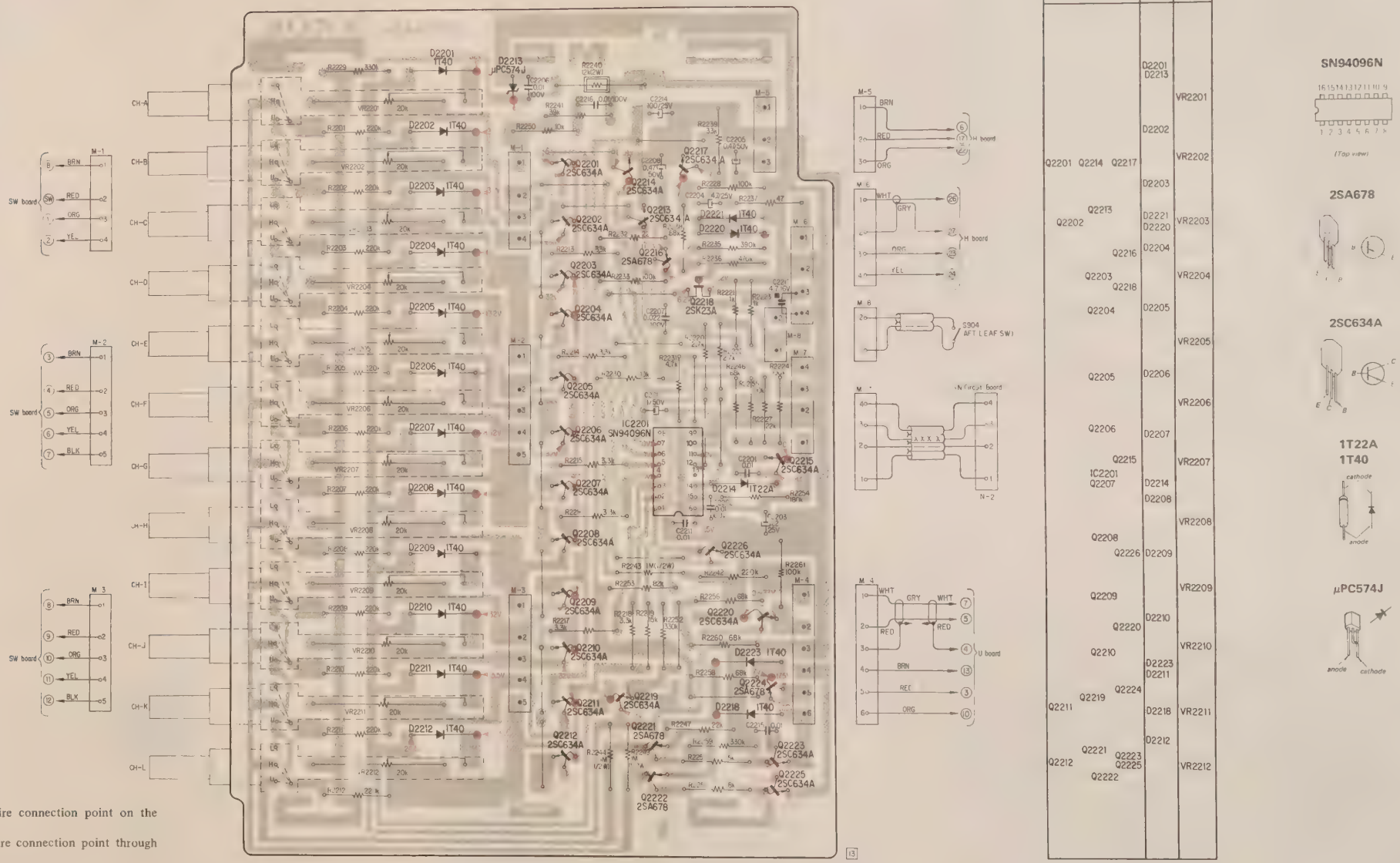


Note: ● indicates parts or wire connection point on the conductor side.
○ indicates parts or wire connection point through the component side.
indicates a nonflammable resistor.
indicates factory selected value.
The symbol printed on the conductor side of D circuit board indicates that complete connection should be especially made.

5-10. MOUNTING DIAGRAM — M Circuit Board —

— Conductor Side —

M M



IC,Q	D	ADJ
	D2201 D2213	VR2201
	D2202	VR2202
Q2201 Q2214 Q2217	D2203	
Q2213 Q2202	D2221 D2220	VR2203
Q2216	D2204	
Q2203 Q2218		VR2204
Q2204	D2205	
		VR2205
Q2205	D2206	
		VR2206
Q2206	D2207	
Q2215 IC2201 Q2207		VR2207
	D2214 D2208	
		VR2208
Q2208 Q2226	D2209	
Q2209		VR2209
Q2220	D2210	
Q2210		VR2210
	D2223 D2211	
Q2224 Q2219 Q2211	D2218	VR2211
	D2212	
Q2221 Q2223 Q2225 Q2212 Q2222		VR2212

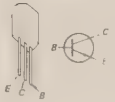
SN94096N



2SA678



2SC634A



1T22A
1T40

µPC574J

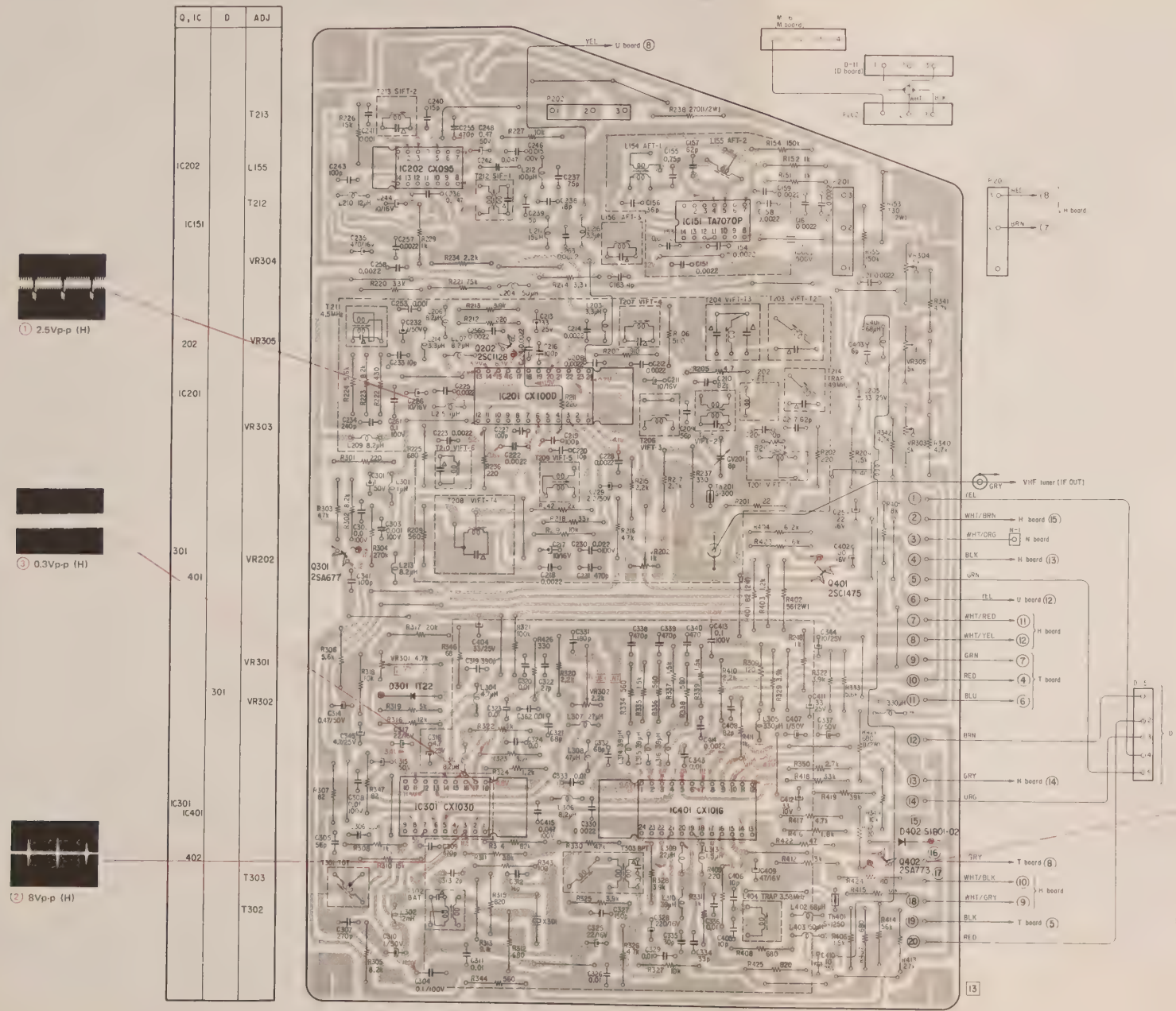


Note: ●—indicates parts or wire connection point on the conductor side.
○—indicates parts or wire connection point through the component side.

5-11. MOUNTING DIAGRAM – SC Circuit Board –

– Conductor Side –

SC SC



① 2.5Vp-p (H)

③ 0.3Vp-p (H)

② 8Vp-p (H)

④ 6Vp-p (H)

CX-095 2SA677

CX100D CX101G 2SA773

CX103D 2SC1128

TA7070P 2SC1475

1T22

SIB01-02

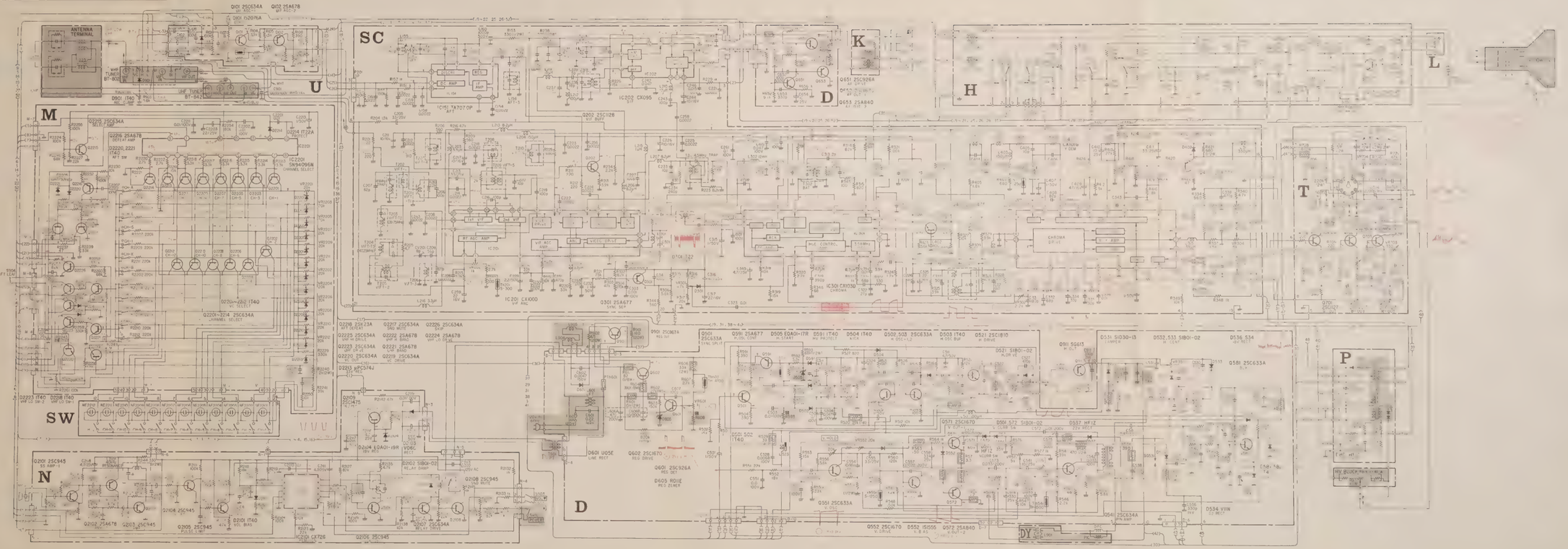
Note: ●—indicates parts or wire connection point on the conductor side.
○—indicates parts or wire connection point through the component side.
indicates a nonflammable resistor.

KV-1541R KV-1541R

5-12. SCHEMATIC DIAGRAM

Note:
- All capacitors are in μF unless otherwise noted. P = μμF
- All resistors are in ohms, ¼W unless otherwise noted. k = 1000 M = 1000 k
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ★ indicates values to be selected.
- Δ indicates internal components.
- Voltages are DC with respect to ground unless otherwise noted.
- Readings are with a color-bar signal applied. Readings are taken with a 20,000-ohm-per-volt VOM.
- Voltages variations may be noted due to normal production tolerances.
- ⟨WW⟩ indicates a nonflammable resistor.
- ▮ indicates factory selected values.

Note: The shaded components are critical for safety. Replace only with part number specified.

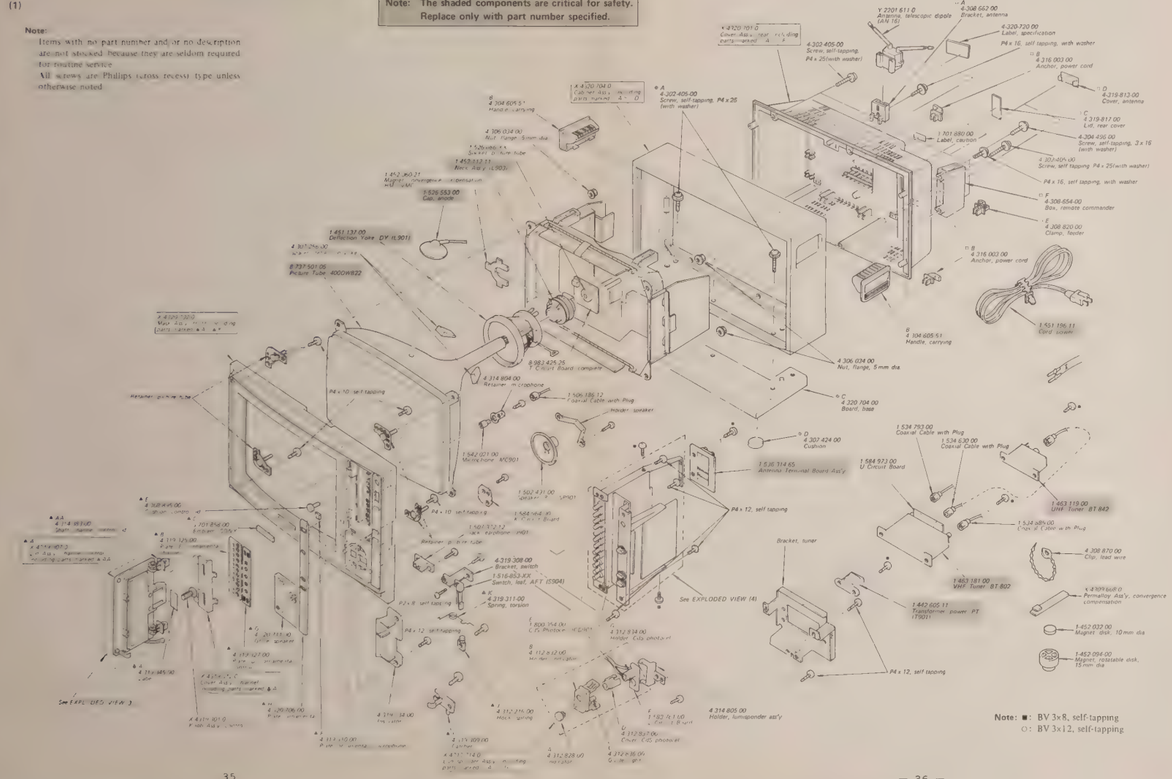


SECTION 6
EXPLODED VIEWS

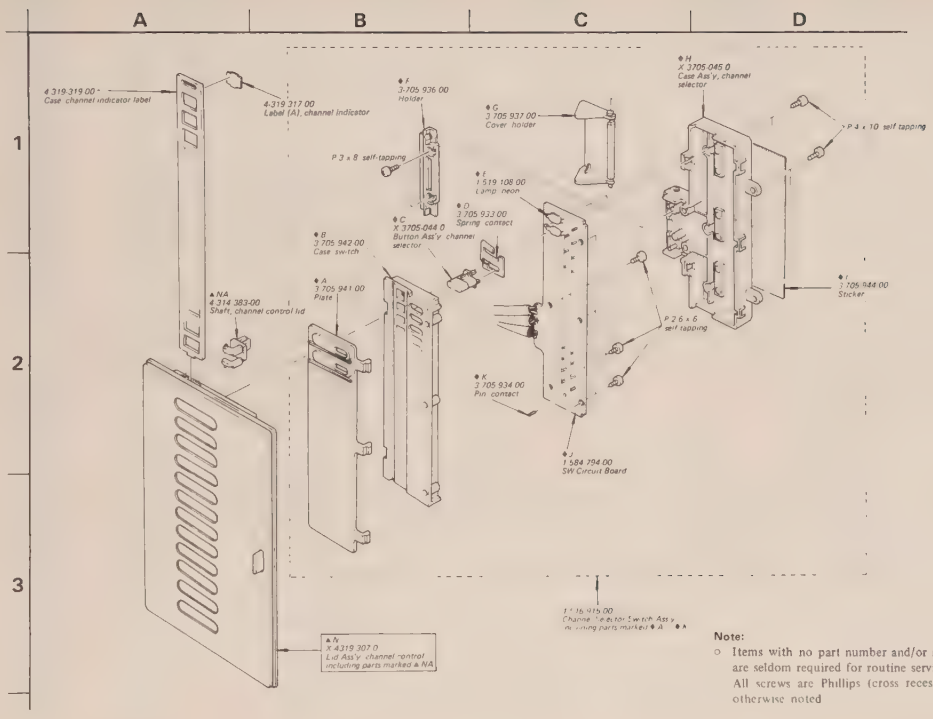
(1)

Note:
Items with no part number and/or no description are not stocked because they are seldom required for routine service.
All screws are Philips (cross recess) type unless otherwise noted.

Note: The shaded components are critical for safety. Replace only with part number specified.


4 320 104 0
Cover, rear (for shielding parts marked * A *)
4 320 101 0
Cover, rear (for shielding parts marked * A *)
4 302 405 00
Screw, self-tapping, P4 x 25 (with washer)
Y 7701 611 0
Antenna, telescopic dipole (UHF/B)
A
4 308 562 00
Bracket, antenna
4 320 720 00
Label, specification
P4 x 16, self tapping, with washer
B
4 316 003 00
Anchor, power cord
D
4 319 813 00
Cover, antenna
C
4 319 811 00
Lid, rear cover
1 701 680 00
Label, caution
4 304 496 00
Screw, self-tapping, 3 x 16 (with washer)
4 302 405 00
Screw, self tapping P4 x 25 (with washer)
P4 x 16, self tapping, with washer
F
4 308 654 00
Box, remote commander
E
4 308 820 00
Clamp, feeder
B
4 316 003 00
Anchor, power cord
1 453 137 00
Main tube (CRT) (PY, IL901)
8 773 501 05
Picture Tube 400WB22
4 307 296 XX
Mask, shadow
1 452 840 21
Magnet, convergence + centralizer unit (CM)
1 526 553 00
Coil, anode
4 306 034 00
Nut, flange, 5 mm dia.
4 304 605 51
Handle, carrying
1 531 196 11
Cord, power
6 983 425 25
P.C.Board, complete
4 314 804 00
Retainer, microphone
1 506 186 12
Coaxial Cable with Plug
Holder, speaker
4 320 704 00
Board, base
4 307 424 00
Cushion
1 542 021 00
Microphone, MC901
1 536 114 65
Antenna Terminal Board Ass'y
1 584 973 00
LC Circuit Board
1 534 793 00
Coaxial Cable with Plug
1 534 638 00
Coaxial Cable with Plug
1 463 119 00
UHF Tuner, BT-842
1 534 389 00
Coaxial Cable with Plug
4 308 870 00
Clip, lead wire
1 463 181 00
VHF Tuner, BT-802
4 309 668 0
Permalloy Ass'y, convergence compensation
1 452 022 00
Magnet, disk, 10 mm dia
1 452 094 00
Magnet, rotatable disk, 15 mm dia
1 442 605 11
Transformer, power PT (T901)
4 314 805 00
Holder, lumispender ass'y
See EXPLODED VIEW (4)
Bracket, tuner
P4 x 10, self-tapping
P4 x 12, self-tapping
P3 x 8, self-tapping
4 319 308 00
Bracket, switch
1 516 653 XX
Switch, lead, AFT (S904)
4 319 311 00
Spring, torsion
1 502 431 00
Varistor (VR901)
1 584 464 81
AV Jack Board
1 507 372 12
Jack, headphone (HP)
1 500 154 00
CTL Photo-IC (IC901)
4 312 934 00
Holder, CdS photo-cell
1 502 431 00
Varistor (VR901)
4 112 512 00
Screw, self-tapping
1 502 431 00
Varistor (VR901)
1 582 510 00
Crystal, CDS photo-cell
4 312 928 00
Retainer
4 312 936 00
Guide, grill
4 312 215 00
Holder, spring
4 319 309 00
Bracket, switch
4 319 310 00
Spring, torsion
4 319 312 00
Bracket, switch
4 319 313 00
Spring, torsion
4 319 314 00
Bracket, switch
4 319 315 00
Spring, torsion
4 319 316 00
Bracket, switch
4 319 317 00
Spring, torsion
4 319

(3)

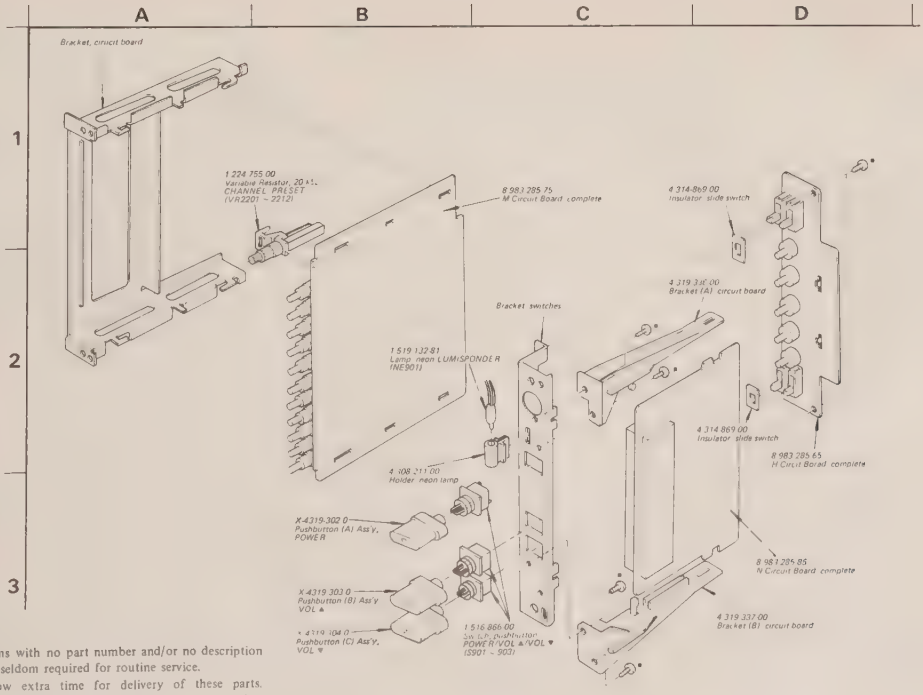


Note:

- Items with no part number and/or no description are seldom required for routine service.
  All screws are Phillips (cross recess) type unless otherwise noted

39

(4)



Note:

- Items with no part number and/or no description are seldom required for routine service.
  Allow extra time for delivery of these parts.
- All screws are Phillips (cross recess) type unless otherwise noted.
- ■ : BV3 × 8, self-tapping
  ● : BV3 × 12, self-tapping

40

SECTION 7
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
		TUNERS AND CIRCUIT BOARDS
	1-463-119-00	UHF Tuner BT-842
	1-463-181-00	VHF Tuner BT-802
	1-583-761-00	L Circuit Board
	1-584-962-00	P Circuit Board
	1-584-964-00	K Circuit Board
	1-584-973-00	U Circuit Board
	8-983-285-65	H Circuit Board, complete
	8-983-285-75	M Circuit Board, complete
	8-983-285-85	N Circuit Board, complete
	8-983-425-15	SC Circuit Board, complete
	8-983-425-25	T Circuit Board, complete
	8-983-594-25	D Circuit Board, complete
		SEMICONDUCTORS
		Transistors
Q101		2SC634A
Q102		2SA678
Q202		2SC1128
Q301		2SA677
Q351		2SC945
Q401		2SC1475
Q402		2SA773
Q501~503		2SC633A
Q521		2SC1810
Q541		2SC634A
Q551		2SC633A
Q552		2SC1670
Q571		2SC1670
Q572		2SA840
Q581		2SC633A
Q591		2SA677
Q601		2SC926A
Q602		2SC1670
Q651		2SC926A
Q652		2SC1670
Q653		2SA840
Q701~703		2SC1127
Q901		2SC867A
Q911		SG613
Q2101		2SC945
Q2102		2SA678
Q2103~2106		2SC945
Q2107		2SC634A
Q2108		2SC945
Q2109		2SC1475
Q2201~2215		2SC634A
Q2216		2SA678
Q2217		2SC634A
Q2218		2SK23A
Q2219,2220		2SC634A
Q2221,2222		2SA678
Q2223		2SC634A
Q2224		2SA678
Q2225,2226		2SC634A
		Diodes
D101		1S2076A
D301		1T22
D302		RD11E
D303		1T22
D402		SIB01-02
D501~504		1T40
D505		EQA01-17R
D521		SIB01-02
D531		SID30-13
D532,533		SIB01-02
D534		V11N
D536		S34
D537		HF1Z
D551		SIB01-02
D552		1S1555
D571		HF1Z
D572,573		SIB01-02

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
D581,582, D591		1T40
D601		U05I
D605		RD11F
D801		HF1C
D901		1T40
D2101		1T40
D2102		SIB01-02
D2103		V06C
D2104		EQA01-19R
D2201~2212		1T40
D2213		μPC574J
D2214		1T22A
D2218, D2220,2221, D2223		1T40
		ICs
IC151		TA7070P
IC201		CX100D
IC202		CX095
IC301		CX103D
IC401		CX101G
IC2101		CX726
IC2201		SN94096N
		Miscellaneous
PTh601	1-800-065-XX	Thermistor (positive)
Th101	1-800-194-00	Thermistor, S-90
Th201	⇒1-800-071-XX	Thermistor, S-350
Th401	1-800-198-XX	Thermistor, S-1250
Th541	1-800-069-XX	Thermistor, TH-1500
Th551	1-800-198-XX	Thermistor, S-1250
Th591	1-800-070-XX	Thermistor, TH-4700
Th603	1-800-070-XX	Thermistor, TH-4700
CD901	1-800-354-00	CdS Photocell
		COILS
		All coils are microinductor unless otherwise noted
L154	1-403-904-00	Transformer, automatic fine tuning: AFT-1
L155	1-403-905-00	Transformer, automatic fine tuning: AFT-2
L156	1-403-962-00	Transformer, automatic fine tuning: AFT-3
L203	1-407-184-XX	3.3μH
L204	1-407-171-XX	150μH
L206,207, L209	1-407-189-XX	8.2μH
L210	1-407-158-XX	12μH
L211	1-407-159-XX	15μH
L212	1-407-169-XX	100μH
L213	1-407-189-XX	8.2μH
L214	1-407-184-XX	3.3μH
L215	1-407-178-XX	1μH
L216	1-407-184-XX	3.3μH
L301	1-407-178-XX	1μH
L302	1-407-207-XX	12mH
L304	1-407-186-XX	4.7μH
L305	1-407-175-XX	330μH
L306	1-407-189-XX	8.2μH
L307	1-407-162-XX	27μH
L308	1-407-165-XX	47μH
L309	1-407-161-XX	22μH
L310	1-407-164-XX	39μH
L311	1-407-175-XX	330μH
L312	1-407-189-XX	8.2μH
L313	1-407-180-XX	1.5μH
L314~316	1-407-164-XX	39μH
L401,402	1-407-167-XX	68μH

⇒: Due to replacement parts the value is different on the diagrams.

Note: The shaded component is critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
L403	1-407-171-XX	150μH
L404	1-409-193-00	3.58 MHz Trap
L501	1-407-720-00	100μH, spook choke
L523	1-459-156-00	Inductor with Magnetic Core
L532,533	1-407-200-00	Horizontal Centering, HCC
L534,535	1-459-155-00	45μH
L537	1-407-841-00	15μH
L601	1-421-302-XX	Line Filter, LFT
L701	1-407-175-XX	330μH
L901	1-451-137-00	Deflection Yoke, DY
L903	1-452-112-11	Neck Ass'y
L904, 905	1-425-923-00	Degaussing, DGC
L911	1-407-364-00	Spook Choke
L912	1-407-365-00	0.74μH, spook choke
L2101	1-425-914-00	Resonance, SRC; 40 kHz
L2102	1-405-725-00	Oscillator, 40 kHz
DL401	1-415-047-00	Delay Line
RL2101	1-515-266-00	Relay

TRANSFORMERS

T201	1-409-213-00	Trap, VIFT-T1
T202	1-403-961-00	Trap, VIFT-1
T203	1-409-264-00	Trap, VIFT-T2 (39.75 MHz)
T204	1-409-219-00	Trap, VIFT-T3 (47.25 MHz)
T205	1-403-925-00	VIFT-2
T206	1-403-927-00	VIFT-3
T207	1-403-928-00	VIFT-4
T208	1-409-263-00	Trap, VIFT-T4
T209	1-403-926-00	VIFT-5
T210	1-403-924-00	VIFT-6
T211	1-409-146-00	Trap, 4.5 MHz
T212	1-403-866-00	SIFT-1
T213	1-403-871-00	SIFT-2
T214	1-409-262-00	Trap, 49 MHz
T301	1-425-784-00	Take-off, TOT
T302	1-425-848-00	Burst Amplifier, BAT
T303	1-425-786-00	Band Pass, BPT
T521	1-437-068-00	Horizontal Drive, HDT
T541	1-421-263-00	Horizontal Pincushion Correction, PCT-H
T681	1-427-394-12	Sound Output, SOT
T801	1-439-185-00	Flyback, FBT
T901	1-442-605-11	Power, PT

CAPACITORS

All capacitors are in μF and ceramic type unless otherwise noted.
50 V or less working voltages are omitted except for electrolytic type.
p = μμF, elect = electrolytic

C101	1-108-626-12	0.01	100 V	mylar
C102,103	1-121-398-11	10	25 V	elect
C104	1-121-391-11	1	50 V	elect
C105	1-121-404-11	33	25 V	elect
C107	1-121-651-11	10	16 V	elect
C108	1-108-626-12	0.02	100 V	mylar
C109	1-108-642-12	0.22	100 V	mylar
C151 C153,154	1-102-121-11	0.0022		
C155	1-101-586-11	0.75p		
C156	1-102-519-11	36p		
C157	1-102-493-11	62p		
C158,159	1-102-121-11	0.0022		
C160	1-102-043-11	1000p	500 V	feedthrough
C161,162	1-102-121-11	0.0022		
C163	1-102-941-11	4p		
C205	1-121-404-11	33	25 V	elect
C206	1-102-529-11	100p		
C207	1-101-886-11	62p		
C208	1-102-121-11	0.0022		
C209	1-102-850-11	56p		
C210	1-102-863-11	82p		
C211	1-121-651-11	10	16 V	elect

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
C212	1-102-121-11	0.0022
C213	1-121-404-11	33 25V elect
C214	1-102-121-11	0.0022
C216	1-102-973-11	100p
C217	1-121-651-11	10 16V elect
C218	1-102-121-11	0.0022
C219	1-102-973-11	100p
C220	1-102-858-11	10p
C221~225	1-102-121-11	0.0022
C226	1-121-651-11	10 16V elect
C227	1-102-973-11	100p
C228	1-102-121-11	0.0022
C229	1-121-450-11	2.2 50V elect
C230	1-108-630-12	0.022 100V mylar
C231	1-102-114-11	470p
C232	1-121-391-11	1 50V elect
C233	1-102-947-11	10p
C234	1-102-979-11	240p
C235	1-121-426-11	470 16V elect
C236	1-101-006-11	0.047
C237	1-101-890-11	75p
C238	1-102-953-11	18p
C239	1-102-856-11	5p
C240	1-102-855-11	15p
C241	1-102-074-11	0.001
C242	1-101-006-11	0.047
C243	1-102-973-11	100p
C244	1-121-651-11	10 16V elect
C246	1-108-628-12	0.015 100V mylar
C248	1-121-951-11	0.47 50V elect
C255	1-102-824-11	470p
C253	1-102-074-11	0.001
C256~258	1-102-121-11	0.0022
C259	1-121-479-11	22 16V elect
C261	1-108-638-12	0.1 100V mylar
C263	1-102-121-11	0.0022
C301	1-121-391-11	1 50V elect
C302	1-108-626-12	0.1 100V mylar
C303	1-108-614-12	0.001 100V mylar
C304	1-108-638-12	0.1 100V mylar
C305	1-101-884-11	56p

Ref. No.	Part No.	Description
C306	1-101-004-11	0.01
C307	1-102-980-11	270p
C308	1-108-626-12	0.1 100V mylar
C309	1-102-824-11	470p
C310	1-121-391-11	1 50V elect
C311	1-101-004-11	0.01
C312	1-102-512-11	16p
C313	1-102-935-11	2p
C314	1-121-726-11	0.47 50V elect
C315	1-121-952-11	1 50V elect
C316	1-121-961-11	4.7 25V elect
C317	1-121-990-11	22 16V elect
C319	1-102-330-11	390p
C320	1-101-004-11	0.01
C321	1-101-888-11	68p
C322	1-102-961-11	27p
C323,324	1-101-004-11	0.01
C325	1-121-479-11	22 16V elect
C326	1-101-004-11	0.01
C327	1-102-888-11	150p
C328	1-121-421-11	220 16V elect
C329	1-101-004-11	0.01
C330	1-102-121-11	0.0022
C331	1-102-976-11	180p
C332	1-101-888-11	68p
C333	1-101-004-11	0.01
C334	1-102-963-11	33p
C335	1-102-962-11	30p
C336	1-101-004-11	0.01
C337	1-121-391-11	1 50V elect
C338~340	1-102-114-11	470p
C341	1-102-973-11	100p
C343	1-101-004-11	0.01
C344	1-121-398-11	10 25V elect
C345	1-121-961-11	4.7 25V elect
C351	1-121-819-11	4.7 50V elect (nonpolarized)
C352,353	1-121-391-11	1 50V elect
C354	1-121-404-11	33 25V elect
C357	1-101-006-11	0.047
C358	1-121-395-11	4.7 25V elect

Ref. No.	Part No.	Description		
C362	1-101-004-11	0.01		
C402	1-121-415-11	100	16V	elect
C403	1-102-943-11	6p		
C404	1-121-404-11	33	25V	elect
C405,406	1-102-858-11	10p		
C407	1-121-391-11	1	50V	elect
C408	1-102-971-11	82p		
C409	1-121-409-11	47	16V	elect
C410	1-121-398-11	10	25V	elect
C411	1-121-404-11	33	25V	elect
C412	1-121-402-11	33	10V	elect
C413	1-108-638-12	0.1	100V	mylar
C414	1-102-121-11	0.0022		
C415	1-108-634-12	0.047	100V	mylar
C501	1-121-391-11	1	50V	elect
C502,503	1-108-626-12	0.01	100V	mylar
C504	1-108-634-12	0.047	100V	mylar
C505	1-121-395-11	4.7	25V	elect
C506	1-108-638-12	0.1	100V	mylar
C507	1-102-973-11	100p		
C508,509	1-108-911-12	0.0022	100V	mylar
C510	1-102-832-11	330p		
C511	1-121-396-11	4.7	50V	elect
C512	1-108-636-12	0.068	100V	mylar
C521	1-102-973-11	100p		
C522,523	1-101-810-11	100p	500V	
C524	1-121-415-11	100	16V	elect
C525	1-121-391-11	1	50V	elect
C526	1-121-999-11	10	160V	elect
C527	1-102-098-11	470p		
C528	1-108-624-12	0.0068	100V	mylar
C529,530	1-102-098-11	470p		
C531	1-123-024-11	33	160V	elect
C532	1-130-070-11	5000p	1.5kV	polyethylene
C533	1-102-155-11	330p	2kV	
C534	1-130-069-11	0.43	200V	polyethylene
C535	1-129-953-11	0.068	1.5kV	polyethylene
C536	1-102-095-11	330p	1kV	
C537	1-121-654-11	330	25V	elect
C538	1-102-030-11	330p	500V	
C539	1-102-038-11	0.001	500V	
C541	1-121-398-11	10	25V	elect
C542	1-108-632-12	0.033	100V	mylar
C543	1-121-391-11	1	50V	elect
C544	1-108-632-12	0.033	100V	mylar
C551,552	1-108-626-12	0.01	100V	mylar
C553	1-108-640-12	0.15	100V	mylar
C554	1-131-158-11	10	16V	tantalum
C555	1-121-404-11	33	25V	elect
C556	1-121-261-11	220	35V	elect
C557	1-108-684-12	0.0022	200V	mylar
C558	1-121-404-11	33	25V	elect
C571	1-123-167-11	1.5	160V	elect
C572	1-108-692-12	0.01	200V	mylar
C573	1-108-698-12	0.033	200V	mylar
C574	1-121-989-11	330	25V	elect
C575	1-102-038-11	0.001	500V	
C577	1-102-212-11	820p	500V	
C581	1-121-726-11	0.47	50V	elect
C582	1-108-630-12	0.022	100V	mylar
C583	1-102-110-11	220p		
C584	1-102-244-11	220p	500V	
C585	1-102-112-11	330p		
C591	1-102-114-11	470p		
C601	1-108-745-12	0.22	125V	mylar
C602	1-102-189-11	0.0047	150V	
C606	1-125-074-11	470/10	200V	elect (block)
C607	1-101-810-11	100p	500V	
C651	1-121-395-11	4.7	25V	elect
C652	1-101-810-11	100p	500V	
C653	1-102-832-11	330p		
C654	1-121-398-11	10	25V	elect
C655	1-121-999-11	10	160V	elect
C701~703	1-101-361-11	150p		
C704	1-129-779-11	2200p	1kV	polyethylene
C705	1-129-739-11	0.1	630V	polyethylene
C706	1-102-155-11	330p	2kV	
C801	1-108-696-12	0.022	200V	mylar
C802	1-121-262-11	10	250V	elect

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.		Description
C901	1-108-632-12	0.033	100V mylar
C911	1-102-155-11	330p	2kV
C2101,2102	1-121-391-11	1	50V elect
C2103	1-121-398-11	10	25V elect
C2104	1-121-391-11	1	50V elect
C2105	1-102-115-11	560p	
C2106	1-121-391-11	1	50V elect
C2107	1-161-070-11	0.01	
C2108	1-106-277-12	0.1	100V mylar
C2109	1-121-395-11	4.7	25V elect
C2110	1-161-076-11	0.1	
C2111	1-121-395-11	4.7	25V elect
C2112	1-106-229-51	0.001	100V mylar
C2113	1-108-777-12	0.022	125V AC mylar
C2114	1-121-398-11	10	25V elect
C2115	1-121-423-11	220	50V elect
C2116	1-121-395-11	4.7	25V elect
C2117	1-121-417-11	100	50V elect
C2118	1-121-395-11	4.7	25V elect
C2119	1-108-626-12	0.01	100V mylar
C2201	1-101-004-11	0.01	
C2202	1-106-196-51	0.01	100V mylar
C2203	1-121-480-11	22	25V elect
C2204	1-121-395-11	4.7	25V elect
C2205	1-121-726-11	0.47	50V elect
C2206	1-108-626-12	0.01	100V mylar
C2207	1-108-630-12	0.022	100V mylar
C2208	1-123-200-11	0.47	50V elect
C2210	1-121-257-11	4.7	16V elect
C2211	1-101-004-11	0.01	
C2213	1-121-391-11	1	50V elect
C2214	1-121-416-11	100	25V elect
C2215	1-101-004-11	0.01	
C2216	1-108-626-12	0.01	100V mylar
CV201	1-141-138-XX	8p	trimmer

RESISTORS

All resistors are in ohms. Regular-type ¼W carbon resistors are omitted.
Check schematic diagram for values.
All adjustable and variable resistors have characteristic curve B, unless otherwise noted. k = 1000, M = 1000 k

Ref. No.	Part No.			Description
R153	1-244-861-11	330	½W	carbon
R238	1-244-859-11	270	½W	carbon
R351,352	1-211-417-11	22	1/8W	carbon (nonflammable)
R401	1-206-405-11	82	2W	metal oxide (nonflammable)
R402	1-206-481-11	56	2W	metal oxide (nonflammable)
R421	1-244-869-11	680	½W	carbon
R520	1-213-150-11	3.9 k	1W	metal oxide (nonflammable)
R522	1-244-917-11	68 k	½W	carbon
R523	1-211-550-11	1.8 k	¼W	carbon (nonflammable)
R524	1-211-421-11	39	1/8 W	carbon (nonflammable)
R525	1-206-523-11	33	3W	metal oxide (nonflammable)
R526	1-244-859-11	270	½W	carbon
R529	1-213-126-11	39	1W	metal oxide (nonflammable)
R531	1-206-451-11	3.3	2W	metal oxide (nonflammable)
R536	1-213-163-11	47 k	1W	metal oxide (nonflammable)
R538	1-211-536-11	390	¼W	carbon (nonflammable)
R539	1-212-390-11	2.7	1W	metal oxide (nonflammable)

Note: The shaded component is critical for safety. Replace only with part number specified.

Ref. No.	Part No.			Description
R545	1-244-865-11	470	½W	carbon
R559	1-207-467-11	2.2	½W	wirewound
R563	1-211-526-11	150	¼W	carbon (nonflammable)
R565	1-211-512-11	39	¼W	carbon (nonflammable)
R571,572	1-211-687-11	3.3	¼W	carbon (nonflammable)
R573	1-210-860-11	1.2	¼W	carbon (nonflammable)
R578	1-210-860-11	1.2	¼W	carbon (nonflammable)
R585	1-213-153-11	6.8 k	1W	metal oxide (nonflammable)
R593	1-244-917-11	68 k	½W	carbon
R601	1-206-692-11	15 k	2W	metal oxide (nonflammable)
R602	1-213-160-11	27 k	1W	metal oxide (nonflammable)
R604	1-211-441-11	390	1/8 W	carbon (nonflammable)
R605	1-202-643-31	820 k	½W	composition
R606	1-206-700-61	33 k	2W	metal oxide (nonflammable)
■R595, ■R608			¼W	carbon (factory selected value)
R611	1-211-929-11	82	1/8 W	carbon (nonflammable)
R657,658	1-211-602-11	33	½W	carbon (nonflammable)
R659	1-211-933-11	47	1/8 W	carbon (nonflammable)
R711~713	1-206-692-11	15 k	2W	metal oxide (nonflammable)
R714~716	1-202-585-31	3.3 k	½W	composition
R717	1-202-639-31	560 k	½W	composition
R719	1-202-629-31	220 k	½W	composition
R721	1-202-613-31	47 k	½W	composition
R722	1-202-633-31	330 k	½W	composition
R723	1-202-649-31	1.5 M	½W	composition
R724	1-202-651-31	1.8 M	½W	composition
R725	1-202-647-31	1.2 M	½W	composition
R726	1-202-634-31	360 k	½W	composition

■ : factory selected value

Ref. No.	Part No.			Description
R728	1-217-516-11	1.8	2W	wirewound (nonflammable)
R801	1-202-593-31	6.8 k	½W	composition
R803,804	1-202-788-31	10 k	1W	composition
R805	1-213-133-11	150	1W	metal oxide (nonflammable)
R806	1-213-211-11	100 M	1W	bleeder
R901	1-205-805-11	180	20W	cement coated
R902	1-217-557-11	4.7	20W	cement coated
R2144	1-244-861-11	330	½W	carbon
R2240	1-206-690-11	12 k	2W	metal oxide (nonflammable)
R2243,2244	1-202-645-31	1 M	½W	composition
R2249	1-202-645-31	1 M	½W	composition
VR101	1-224-641-XX	470, adjustable; U.AGC		
VR202	1-224-642-XX	1 k, adjustable; TUNER AGC		
VR301	1-224-644-XX	4.7 k, adjustable; ACC		
VR302	1-224-643-XX	2.2 k, adjustable; HUE CENT		
VR303	1-221-389-XX	5 k, adjustable; B.BKG		
VR304	1-221-389-XX	5 k, adjustable; R.BKG		
VR305	1-221-389-XX	5 k, adjustable; G.BKG		
VR351	1-224-583-00	5 k, variable; SHARPNESS		
VR352	1-224-146-00	10 k, variable; HUE		
VR353	1-224-018-00	20 k, variable; COLOR		
VR354	1-224-583-00	5 k, variable; BRIGHT		
VR355	1-224-017-00	5 k, variable; PICTURE		
VR501	1-224-646-XX	22 k, adjustable; H.FREQ		
VR531	1-223-067-00	120, adjustable; H.CENT		
VR541	1-222-512-00	10 k, adjustable; PIN		
VR551	1-224-658-00	20 k, variable; V.HOLD		
VR552	1-222-807-XX	20 k, adjustable; V.SIZE		
VR571	1-221-389-XX	5 k, adjustable; V.CENT		
VR601	1-224-642-XX	1 k, adjustable; 115V ADJ		
VR701	1-224-640-XX	330, adjustable; B.DRIVE		
VR702	1-224-640-XX	330, adjustable; G.DRIVE		
VR703	1-224-640-XX	330, adjustable; R.DRIVE		
VR704	1-224-150-00	1 M, adjustable; SCRN		

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
VR801	1-224-799-00	80 M, adjustable; H.STAT
VR2201~2212	1-224-755-00	20 k, variable; CHANNEL PRESET

MISCELLANEOUS

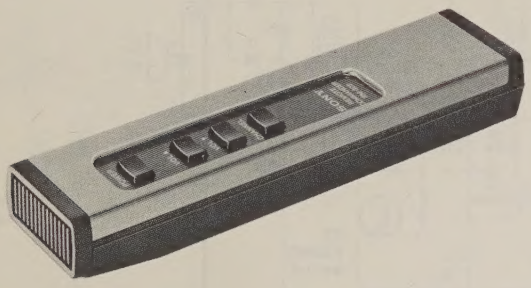
F601	1-532-271-XX	Fuse, 4 A 125 V
J901	1-507-372-12	Jack, earphone
MIC901	1-542-021-00	Microphone
NE901	1-519-132-81	Lamp, neon; LUMISPONDER
NE2201~2212	1-519-144-00	Lamp, neon; CHANNEL PRESET
S351	1-516-473-XX	Switch, LUMISPONDER
S352	1-516-473-XX	Switch, REMOTE CONTROL
S353	1-516-473-XX	Switch, AFT
S354	1-516-909-00	Switch, slide; AUTO
S901	1-516-866-00	Switch, pushbutton; POWER
S902	1-516-866-00	Switch, pushbutton; VOL ▲
S903	1-516-866-00	Switch, pushbutton; VOL ▼
S904	1-516-853-XX	Switch, leaf; AFT
SG531 SG701~706	1-519-063-XX	Spark Gap, 1.5 kV
SP901	1-502-491-00	Speaker, 8Ω
X301	1-527-154-00	Crystal
	1-452-032-00	Magnet, disk; 10 mm dia.
	1-452-060-21	Magnet, BMC
	1-452-094-00	Magnet, rotatable disk; 15 mm dia.
	1-516-915-00	Channel Selector Switch Ass'y
	including:	
	1-519-108-00	Lamp, neon
	1-584-794-00	SW Circuit Board
	3-705-933-00	Spring, contact
	3-705-934-00	Pin, contact
	3-705-936-00	Holder
	3-705-937-00	Cover, holder
	3-705-941-00	Plate
	3-705-942-00	Case, switch
	3-705-944-00	Sticker
	X-5705-044-0	Button Ass'y, channel selector
	X-3705-045-0	Case Ass'y, channel selector
	1-506-186-12	Coaxial Cable with Plug
	1-526-086-XX	Socket, picture tube
	1-526-553-00	Cap, anode
	1-534-630-00	Coaxial Cable with Plug
	1-534-793-00	Coaxial Cable with Plug
	1-534-885-00	Coaxial Cable with Plug
	1-536-314-65	Antenna Terminal Board Ass'y
	1-536-378-XX	Terminal strip, 1L2 type
	1-551-196-11	Cord, power
	8-737-501-05	Picture Tube, 400DWB22

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
X-3701-031-5	Card, warranty
Y-2063-103-0	Antenna, loop (AN-15)
Y-2201-611-0	Antenna, telescopic dipole (AN-16)
8-983-285-35	Remote commander (RM302)
1-504-034-32	Earphone (ME-20B)
3-701-352-00	Bag, polyethylene
3-701-355-01	Label, tack
3-701-730-02	Envelope, IBM card
3-793-898-21	Tag, material
4-319-318-01	Label (B), indicator
4-319-328-01	Adaptor, control
4-320-714-00	Carton
4-320-715-00	Sheet, protection
4-320-716-00	Cushion, left; upper
4-320-717-00	Cushion, right; upper
4-320-718-00	Cushion, left; lower
4-320-719-00	Cushion, right; lower
4-491-039-12	Tag, VHF antenna
4-491-058-12	Tag, eye-catcher
4-491-107-22	Leaflet, instruction
4-493-214-12	Card, caution
4-495-562-21	Manual, instruction
7-822-282-01	Card, IBM (white)
7-822-282-02	Card, IBM (pink)
7-822-282-03	Card, IBM (green)

Note: The shaded components are critical for safety. Replace only with part number specified.

RM-302



REMOTE COMMANDER

SPECIFICATIONS

Remote Control System: Supersonic wireless control

Control Frequencies: 40 kHz

	Pulse width	Rest time
POWER	32.5 ± 1.0 m-sec.	2.5 ± 1.0 m-sec.
VOL ▲	15.0 ± 0.5 m-sec.	2.5 ± 1.0 m-sec.
VOL ▼	7.5 ± 0.5 m-sec.	2.5 ± 1.0 m-sec.
CHANNEL	22.5 ± 0.2 m-sec.	2.5 ± 1.0 m-sec.

Semiconductors: 3 transistors and 3 diodes

Power Requirements: 3V DC

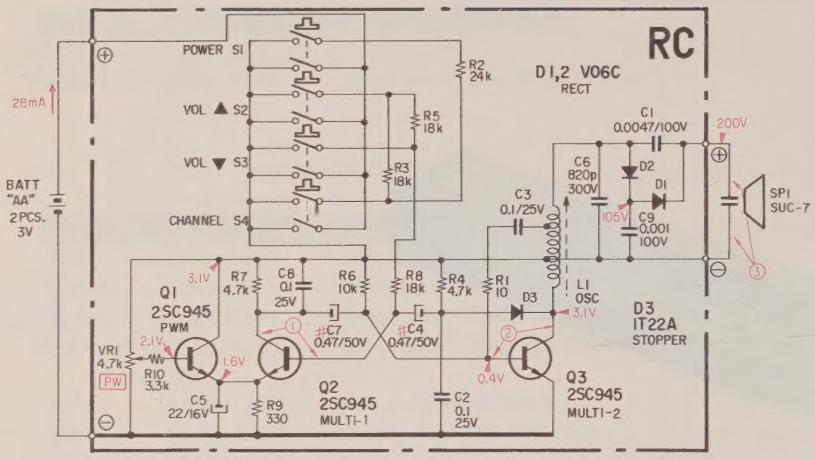
Dimensions: 44 (w) x 27.5 (h) x 189 (d) mm
1 3/4 (w) x 1 1/8 (h) x 7 1/2 (d) inches

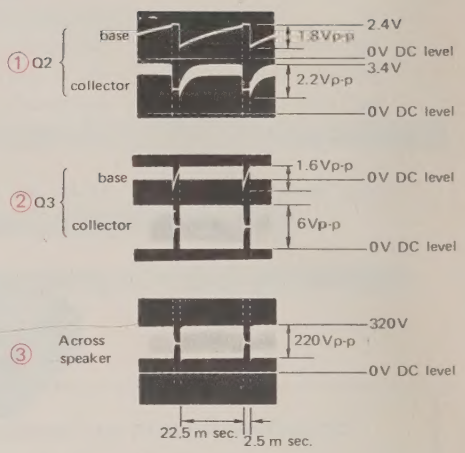
Weight: 155 g (5 1/2 oz), including batteries

Accessory Supplied: Battery size "AA" 2 pcs.

SONY®
SERVICE MANUAL

1. SCHEMATIC DIAGRAM





Voltages around Q2

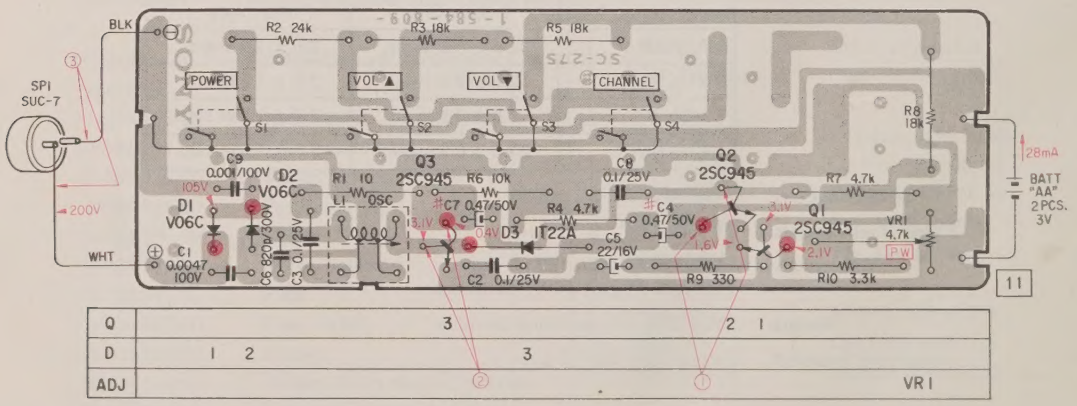
Pushed	Collector	Base
POWER	2.8V	1.2V
VOL ▲	2.5V	1.8V
VOL ▼	2.25V	1.83V
CHANNEL	2.7V	1.5V

Note:

- All capacitors are in μF unless otherwise noted. p = μμF.
- All resistors are in ohms, ¼W unless otherwise noted. k = 1000 M = 1000 k
- Voltages are dc with respect to ground unless otherwise noted. Readings are with a color-bar singal applied. Readings are taken with a 20,000-ohm-per-volt VOM.
- Voltage variations may be noted due to normal production tolerances.
- Electrolytic capacitors marked # are within ±20% tolerance.

2. MOUNTING DIAGRAM

– Conductor Side –

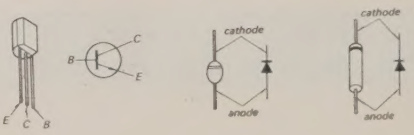


Voltages around Q2

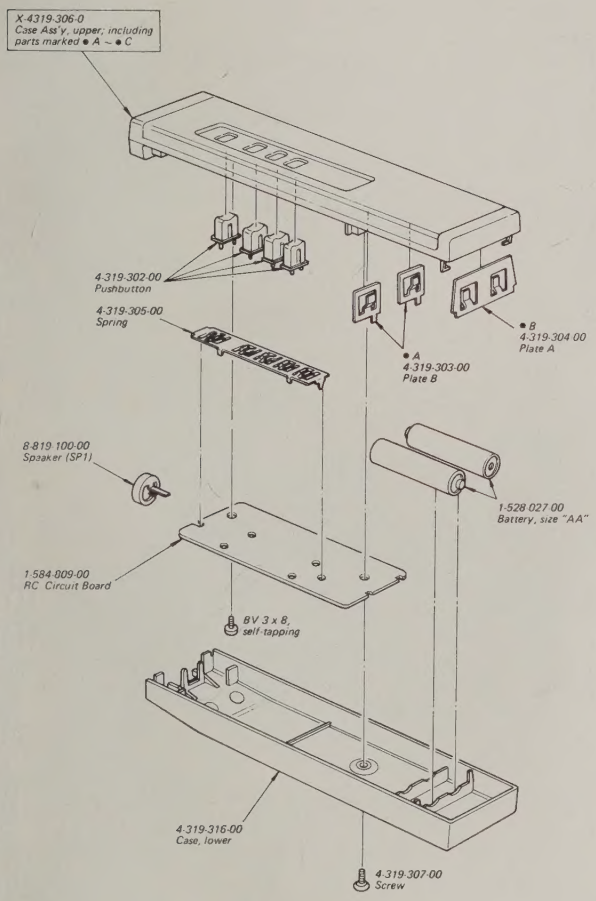
Pushed	Collector	Base
POWER	2.8V	1.2V
VOL ▲	2.5V	1.8V
VOL ▼	2.25V	1.83V
CHANNEL	2.7V	1.5V

Note: ○— indicates parts or wire connection point through the component side. The circled numbers (①~③) refer to wareforms shown on the schematic diagram.

2SC945 **V06C** **1T22A**



3. EXPLODED VIEW



Note:

- Items with no part number and/or no description are seldom required for routine service. Allow extra time for delivery of these parts.
- All screws are Phillips (cross recess) type unless otherwise noted.

4. ELECTRICAL PARTS LIST

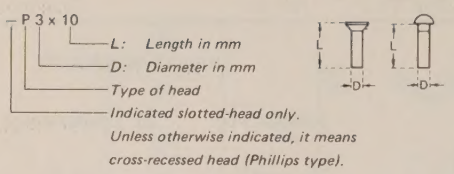
Ref. No.	*Part No.*	*Description*		
		CIRCUIT BOARD		
	1-584-809-00	RC Circuit Board		
		SEMICONDUCTORS		
Q1~3		Transistor	2SC945	
D1,2		Diode	V06C	
D3		Diode	1T22A	
		COIL		
L1	1-405-673-00	Oscillator		
		CAPACITORS		
		All capacitors are in μF. pF = μμF		
C1	1-106-302-12	0.0047	100V	mylar
C2,3	1-101-038-11	0.1	25V	ceramic
C4	1-123-200-11	0.47	50V	electrolytic
C5	1-121-479-11	22	16V	electrolytic
C6	1-130-010-11	820p	300V	polyethylene
C7	1-123-200-11	0.47	50V	electrolytic
C8	1-161-038-11	0.1	25V	ceramic
C9	1-106-286-12	0.001	100V	mylar
		RESISTOR		
		All resistors are in ohms. Regular-type ¼W carbon resistors are omitted. Check schematic diagram for resistance values. k = 1000		
VR1	1-224-644-XX	4.7 k-B, adjustable; PW		
		MISCELLANEOUS		
SP1	8-819-100-00	Speaker, SUC-7		

ACCESSORY

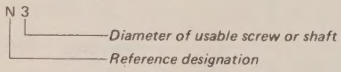
Part No.	*Description*
1-528-027-00	Battery size "AA"

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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